

Nemanja Djuric, Ph.D.

CONTACT INFORMATION	Aurora Innovation, Inc. 1654 Smallman Street Pittsburgh, PA 15222, USA	cell: +1 (267) 334-4708 djurikom.github.io djurikom@gmail.com
RESEARCH INTERESTS	Machine Learning, Data Mining, Self-Driving Vehicles, Computational Advertising, Natural Language Processing, Bioinformatics, Spatial and Temporal Data Mining, Analysis of Large Data from Multiple Sources, Big Data, Large-scale and Scalable Learning, Data Visualization	
WORK EXPERIENCE	<p>Principal Software Engineer & Tech Lead Manager at Aurora Jan. 2021 – now Pittsburgh, PA, USA</p> <ul style="list-style-type: none">• <i>Machine Learning</i>. Developing machine learning models for self-driving vehicles. <p>Staff Autonomy Eng. & Tech Lead Manager at Uber ATG Nov. 2015 – Jan. 2021 Pittsburgh, PA, USA</p> <ul style="list-style-type: none">• <i>Machine Learning</i>. Developing machine learning models for self-driving vehicles.• <i>Note</i>: Uber ATG was acquired by Aurora Innovation, Inc. in January 2021. <p>Research Scientist at Yahoo! Labs Jan. 2014 – Nov. 2015 Sunnyvale, CA, USA</p> <ul style="list-style-type: none">• <i>Targeting Sciences</i>. Developed machine learning models for computational advertising. <p>Research Scientist Internship at Yahoo! Labs Summer 2013 Sunnyvale, CA, USA</p> <ul style="list-style-type: none">• <i>Machine Learning</i>. Developed models for multi-class e-mail classification (automatic categorization of e-mails: shopping, travel, etc.), cold start personalization of Yahoo! homepage. <p>Research Assistant at Temple University Sep. 2009 – Dec. 2013 Philadelphia, PA, USA, Advisor: Dr. Slobodan Vucetic</p> <ul style="list-style-type: none">• <i>Machine Learning and Data Mining</i>. Worked on problems related to learning on low resources, spatio-temporal problems in remote sensing, data visualization, object matching. <p>Software Engineer Internship at Micronas NIIT Summer 2008 Novi Sad, Serbia</p> <ul style="list-style-type: none">• <i>Real-Time Digital Simulator of Electrical Power Grids</i>. Developed a real-time simulator of electrical power drives (cooperation with ABB, Switzerland).	
EDUCATION	<p>Ph.D., Computer and Information Sciences 2009 – 2013 Temple University, Philadelphia, PA, USA, Advisor: Dr Slobodan Vucetic Dissertation: “Big Data Algorithms for Visualization and Supervised Learning” GPA: 4 out of 4</p> <p>M.Sc. and B.Sc., Electrical Engineering 2003 – 2009 University of Novi Sad, Novi Sad, Serbia Thesis: “Short-range Packet-oriented Radio Link”, Advisor: Dr Laslo Nadj GPA: 9.54 out of 10</p>	
JOURNAL PUBLICATIONS	<p>[1] Gligorijevic, Dj., Stojanovic, J., Djuric, N., Radosavljevic, V., Grbovic, M., Kulathinal, R. J., Obradovic, Z. “Large-Scale Discovery of Disease-Disease and Disease-Gene Associations”, Nature Scientific Reports, vol. 6, art. no. 32404, 2016.</p> <p>[2] Stojanovic, J., Gligorijevic, Dj., Radosavljevic, V., Djuric, N., Grbovic, M., Obradovic, Z. “Modeling Healthcare Quality via Compact Representations of Electronic Health Records”, IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBB), vol. 14, no. 3, pp. 545-554, 2016.</p> <p>[3] Djuric, N., Kansakar, L., Vucetic, S. “Semi-Supervised Combination of Experts for Aerosol Optical Depth Estimation”, Artificial Intelligence, vol. 230, pp. 1-13, 2016.</p>	

- [4] **Djuric, N.**, Radosavljevic, V., Obradovic, Z., Vucetic, S. “Gaussian Conditional Random Fields for Aggregation of Operational Aerosol Retrievals”, **IEEE Geoscience and Remote Sensing Letters**, vol. 12, no. 4, pp. 761-765, 2014.
- [5] **Djuric, N.**, Lan, L., Vucetic, S., Wang, Z. “BudgetedSVM: A Toolbox for Scalable SVM Approximations”, *Journal of Machine Learning Research (JMLR)*, vol. 14 (Dec), pp. 3813-3817, 2014.
- [6] Grbovic, M., **Djuric, N.**, Guo, S., Vucetic, S. “Supervised Clustering of Label Ranking Data using Label Preference Information”, *Machine Learning Journal (MLJ)*, pp. 1-35, 2013.
- [7] Radivojac, P., Clark, W. T., . . . , Toppo, S., Lan, L., **Djuric, N.**, Guo, Y., Vucetic, S., Bairoch, A., Linial, M., Babbitt, P. C., Brenner, S. E., Orengo, C., et al. “A Large-scale Evaluation of Computational Protein Function Prediction”, **Nature Methods**, vol. 10, no. 3, pp. 221-229, 2013.
- [8] Lan, L., **Djuric, N.**, Guo, S., Vucetic, S. “MS- k NN: Protein Function Prediction by Integrating Multiple Data Sources”, **BMC Bioinformatics**, vol. 14 (suppl. 3):S8, 2013.
- [9] Coric, V., **Djuric, N.**, Vucetic, S. “Traffic State Estimation from Aggregated Measurements using Signal Reconstruction Techniques”, *Transportation Research Record: Journal of the Transportation Research Board*, Traffic Flow Theory and Characteristics, no. 2315, pp. 121-130, 2012.
- [10] **Djuric, N.**, Radosavljevic, V., Coric, V., Vucetic, S. “Travel Speed Forecasting by Means of Continuous Conditional Random Fields”, *Transportation Research Record: Journal of the Transportation Research Board*, Network Modeling, no. 2263, pp. 131-139, 2011.

CONFERENCE
PUBLICATIONS

- [1] Xu, C., Kingston, P., **Djuric, N.** “Improved Tracking of Articulated Vehicles in Self-Driving Applications Using Phantom Observations”, *IEEE Int’l Conf. on Intelligent Transportation Systems (ITSC)*, Bilbao, Spain, 2023.
- [2] Su, Z., Wang, C., Bradley, D., Vallespi-Gonzalez, C., Wellington, C. K., **Djuric, N.** “Convolutions for Spatial Interaction Modeling”, *IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, New Orleans, USA, 2022.
- [3] Fadadu, S.*, Pandey, S.*, Hegde, D., Shi, Y., Chou, F.-C., **Djuric, N.**, Vallespi-Gonzalez, C. “Multi-View Fusion of Sensor Data for Improved Perception and Prediction in Autonomous Driving”, *IEEE Winter Conf. on Applications of Computer Vision (WACV)*, Waikoloa, USA, 2022. (*arXiv preprint:2008.11901, 2020.*) **equal contrib.*
- [4] Su, Z., Wang, C., Cui, H., **Djuric, N.**, Vallespi-Gonzalez, C., Bradley, D. “Temporally-Continuous Probabilistic Prediction using Polynomial Trajectory Parameterization”, *IEEE/RSJ Int’l Conf. on Intelligent Robots and Systems (IROS)*, Prague, Czech Republic, 2021.
- [5] Cui, H., Chou, F.-C., Charland, J., Vallespi-Gonzalez, C., **Djuric, N.** “Uncertainty-Aware Estimation of Vehicle Orientation for Self-Driving Applications”, *IEEE Int’l Conf. on Intelligent Transportation Systems (ITSC)*, Indianapolis, USA, 2021.
- [6] **Djuric, N.**, Cui, H., Su, Z., Wu, S., Wang, H., Chou, F.-C., San Martin, L., Feng, S., Hu, R., Xu, Y., Dayan, A., Zhang, S., Becker, B. C., Meyer, G. P., Vallespi-Gonzalez, C., Wellington, C. K. “MultiXNet: Multiclass Multistage Multimodal Motion Prediction”, *IEEE Intelligent Vehicles Symposium (IV)*, Nagoya, Japan, 2021.
- [7] Cui, H.*, Shajari, H.*, Yalamanchi, S., **Djuric, N.** “Ellipse Loss for Scene-Compliant Motion Prediction”, *IEEE Int’l Conf. on Robotics and Automation (ICRA)*, Xi’an, China, 2021. **equal contrib.*
- [8] Hauri, S., **Djuric, N.**, Radosavljevic, V., Vucetic, S. “Multi-Modal Trajectory Prediction of NBA Players”, *IEEE Winter Conf. on Applications of Computer Vision (WACV)*, Waikoloa, USA, 2021.

- [9] Ha, P., Zhang, S., **Djuric, N.**, Vucetic, S. “Improving Word Embeddings through Iterative Refinement of Word- and Character-level Models”, Int’l Conf. on Computational Linguistics (**COLING**), Barcelona, Spain, 2020.
- [10] **Djuric, N.**, Zhuang, W., Vucetic, S. “Growing Adaptive Multi-hyperplane Machines”, Int’l Conf. on Machine Learning (**ICML**), Vienna, Austria, 2020.
- [11] Wang, E.*, Cui, H.*, Yalamanchi, S., Moorthy, M., Chou, F.-C., **Djuric, N.** “Improving Movement Predictions of Traffic Actors in Bird’s-Eye View Models using GANs and Differentiable Trajectory Rasterization”, ACM SIGKDD Conf. on Knowledge Discovery and Data Mining (**KDD**), San Diego, USA, 2020. (*oral presentation*) **equal contrib.*
- [12] Yalamanchi, S., Huang, T.-K., Haynes, G. C., **Djuric, N.** “Long-term Prediction of Vehicle Behavior using Short-term Uncertainty-aware Trajectories and High-definition Maps”, IEEE Int’l Conf. on Intelligent Transportation Systems (**ITSC**), Rhodes, Greece, 2020.
- [13] Chou, F.-C., Lin, T.-H., Cui, H., Radosavljevic, V., Nguyen, T., Huang, T.-K., Niedoba, M., Schneider, J., **Djuric, N.** “Predicting Motion of Vulnerable Road Users using High-Definition Maps and Efficient ConvNets”, IEEE Intelligent Vehicles Symposium (**IV**), Las Vegas, USA, 2020.
- [14] Cui, H., Nguyen, T., Chou, F.-C., Lin, T.-H., Schneider, J., Bradley, D., **Djuric, N.** “Deep Kinematic Models for Kinematically Feasible Vehicle Trajectory Predictions”, IEEE Int’l Conf. on Robotics and Automation (**ICRA**), Paris, France, 2020.
- [15] **Djuric, N.**, Radosavljevic, V., Cui, H., Nguyen, T., Chou, F.-C., Lin, T.-H., Singh, N., Schneider, J. “Uncertainty-aware Short-term Motion Prediction of Traffic Actors for Autonomous Driving”, IEEE Winter Conf. on Applications of Computer Vision (**WACV**), Snowmass Village, USA, 2020. (*arXiv preprint:1808.05819, 2018.*)
- [16] Cui, H., Radosavljevic, V., Chou, F.-C., Lin, T.-H., Nguyen, T., Huang, T.-K., Schneider, J., **Djuric, N.** “Multimodal Trajectory Predictions for Autonomous Driving using Deep Convolutional Networks”, IEEE Int’l Conf. on Robotics and Automation (**ICRA**), Montreal, Canada, 2019.
- [17] Kooti, F., Grbovic, M., Aiello, L. M., **Djuric, N.**, Radosavljevic, V., Lerman, K. “Analyzing Uber’s Ride-Sharing Economy”, Int’l World Wide Web Conf. (**WWW**), Perth, Australia, 2017.
- [18] Ordentlich, E., Feng, A., Grbovic, M., Yang, L., Cnudde, P., **Djuric, N.**, Radosavljevic, V., Owens, G. “Network-Efficient Distributed Word2vec Training System for Large Vocabularies”, Int’l ACM Conf. on Information and Knowledge Management (**CIKM**), Indianapolis, USA, 2016.
- [19] **Djuric, N.**, Grbovic, M., Radosavljevic, V., Savla, J., Bhagwan, V., Sharp, D. “Travel the World: Analyzing and Predicting Booking Behavior using E-mail Travel Receipts”, Int’l World Wide Web Conf. (**WWW**), Montreal, Canada, 2016.
- [20] Radosavljevic, V., Grbovic, M., **Djuric, N.**, Bhamidipati, N., Zhang, D., Wang, J., Dang, J., Huang, H., Nagarajan, A., Chen, P. “Smartphone App Categorization for Interest Targeting in Advertising Marketplace”, Int’l World Wide Web Conf. (**WWW**), Montreal, Canada, 2016.
- [21] Grbovic, M., **Djuric, N.**, Radosavljevic, V., Silvestri, F., Baeza-Yates, R., Feng, A., Ordentlich, E., Yang, L., Owens, L. “Scalable Semantic Matching of Search Queries to Ads in Sponsored Search Advertising”, Int’l ACM SIGIR Conf. on Research and Development in Information Retrieval (**SIGIR**), Pisa, Italy, 2016. (*oral presentation*)
- [22] **Djuric, N.**, Grbovic, M., Vucetic, S. “ParkAssistant: An Algorithm for Guiding a Car to a Parking Spot”, Transportation Research Board 95th Annual Meeting (**TRB**), Washington, D.C., USA, 2016.

- [23] Kooti, F., Lerman, K., Aiello, L. M., Grbovic, M., **Djuric, N.**, Radosavljevic, V. “Portrait of an Online Shopper: Understanding and Predicting Consumer Behavior”, ACM Int’l Conf. on Web Search and Data Mining (**WSDM**), San Francisco, USA, 2016.
- [24] Grbovic, M., Radosavljevic, V., **Djuric, N.**, Bhamidipati, N., Savla, J., Bhagwan, V., Sharp, D. “E-commerce in Your Inbox: Cross-domain Product Recommendations at Scale”, ACM SIGKDD Conf. on Knowledge Discovery and Data Mining (**KDD**), Sydney, Australia, 2015. (*oral presentation*)
- [25] Grbovic, M., Radosavljevic, V., **Djuric, N.**, Bhamidipati, N., Nagarajan, A. “Gender and Interest Targeting for Sponsored Post Advertising at Tumblr”, ACM SIGKDD Conf. on Knowledge Discovery and Data Mining (**KDD**), Sydney, Australia, 2015. (*oral*)
- [26] Grbovic, M., **Djuric, N.**, Radosavljevic, V., Silvestri, F., Bhamidipati, N. “Context- and Content-aware Embeddings for Query Rewriting in Sponsored Search”, Int’l ACM SIGIR Conf. on Research and Development in Information Retrieval (**SIGIR**), Santiago, Chile, 2015. (*oral presentation*)
- [27] **Djuric, N.***, Wu, H.*, Radosavljevic, V., Grbovic, M., Bhamidipati, N. “Hierarchical Neural Language Models for Joint Representation of Streaming Documents and their Content”, Int’l World Wide Web Conf. (**WWW**), Florence, Italy, 2015. (*oral*) **equal contrib.*
- [28] Grbovic, M., **Djuric, N.**, Radosavljevic, V., Bhamidipati, N. “Search Retargeting using Directed Query Embeddings”, Int’l World Wide Web Conf. (**WWW**), Florence, Italy, 2015.
- [29] **Djuric, N.**, Zhou, J., Morris, R., Grbovic, M., Radosavljevic, V., Bhamidipati, N. “Hate Speech Detection with Comment Embeddings”, Int’l World Wide Web Conf. (**WWW**), Florence, Italy, 2015.
- [30] Grbovic, M., **Djuric, N.**, Radosavljevic, V., Bhamidipati, N., Hawker, J., Johnson, C. “queryCategorizr: A Large-Scale Semi-Supervised System for Categorization of Web Search Queries”, Int’l World Wide Web Conf. (**WWW**), Florence, Italy, 2015.
- [31] **Djuric, N.**, Radosavljevic, V., Grbovic, M., Bhamidipati, N. “Hidden Conditional Random Fields with Distributed User Embeddings for Ad Targeting”, IEEE Int’l Conf. on Data Mining (**ICDM**), Shenzhen, China, 2014. (*oral presentation*)
- [32] **Djuric, N.**, Grbovic, M., Radosavljevic, V., Bhamidipati, N., Vucetic, S. “Non-linear Label Ranking for Large-scale Prediction of Long-Term User Interests”, AAAI Conf. on Artificial Intelligence (**AAAI**), Quebec City, Canada, 2014. (*oral presentation*)
- [33] Coric, V., **Djuric, N.**, Vucetic, S. “Frugal Traffic Monitoring with Autonomous Participatory Sensing”, SIAM Conf. on Data Mining (**SDM**), Philadelphia, USA, 2014.
- [34] **Djuric, N.**, Vucetic, S. “Efficient Visualization of Large-scale Data Tables through Reordering and Entropy Minimization”, IEEE Int’l Conf. on Data Mining (**ICDM**), Dallas, USA, 2013. (*oral presentation*)
- [35] **Djuric, N.**, Grbovic, M., Vucetic, S. “Distributed Confidence-Weighted Classification on MapReduce”, IEEE Int’l Conf. on Big Data (**BigData**), Santa Clara, USA, 2013. (*oral*)
- [36] **Djuric, N.**, Kansakar, L., Vucetic, S. “Semi-Supervised Learning for Integration of Aerosol Predictions from Multiple Satellite Instruments”, Int’l Joint Conf. on Artificial Intelligence (**IJCAI**), Beijing, China, 2013. (*oral presentation*) **outstanding paper award**
- [37] Grbovic, M.*, **Djuric, N.***, Vucetic, S. “Multi-prototype Label Ranking with Novel Pairwise to Total Rank Aggregation”, Int’l Joint Conf. on Artificial Intelligence (**IJCAI**), Beijing, China, 2013. **equal contrib.*
- [38] **Djuric, N.**, Grbovic, M., Vucetic, S. “Convex Kernelized Sorting”, AAAI Conf. on Artificial Intelligence (**AAAI**), Toronto, Canada, 2012. (*oral presentation*)

- [39] Grbovic, M., **Djuric, N.**, Vucetic, S. “Supervised Clustering of Label Ranking Data”, SIAM Conf. on Data Mining (**SDM**), Anaheim, USA, 2012. (*oral*) **top 10 best papers**
- [40] Wang, Z., **Djuric, N.**, Crammer, K., Vucetic, S. “Trading Representability for Scalability: Adaptive Multi-Hyperplane Machine for Nonlinear Classification”, ACM SIGKDD Conf. on Knowledge Discovery and Data Mining (**KDD**), San Diego, USA, 2011. (*oral*)

- GRANTED PATENTS
- [1] **Djuric, N.**, Gautam, S., Kingston, P. M., Liu, C.-K. “Perception System for an Autonomous Vehicle”, US Patent no. 12,358,524, 2025.
 - [2] Amato, J. L., **Djuric, N.**, Gautam, S., Mohta, A., Chou, F.-C. “Multiple Stage Image based Object Detection and Recognition”, US Patent no. 12,326,919, 2025.
 - [3] **Djuric, N.**, Gautam, S., Mohta, A. “Autonomous Vehicle Blind Spot Management”, US Patent no. 12,296,856, 2025.
 - [4] Mohta, A., Chou, F.-C., Vallespi-Gonzalez, C., Becker, B. C., **Djuric, N.** “Systems and Methods for Sensor Data Processing and Object Detection and Motion Prediction for Robotic Platforms”, US Patent no. 12,259,694, 2025. (*continuation of US Patent no. 12,007,728, 2024.*)
 - [5] **Djuric, N.**, Yalamanchi, S., Haynes, G. C., Huang, T.-K. “Trajectory Prediction for Autonomous Devices”, US Patent no. 11,851,087, 2023. (*continuation of US Patent no. 11,420,648, 2022.*)
 - [6] **Djuric, N.**, Radosavljevic, V., Nguyen, T., Lin, T.-H., Schneider, J., Cui, H., Chou, F.-C., Huang, T.-K. “Object Motion Prediction and Autonomous Vehicle Control”, US Patent no. 11,835,951, 2023. (*continuation of US Patent no. 11,112,796, 2021., which was continuation-in-part of US Patent no. 10,656,657, 2020.*)
 - [7] Cui, H., Wang, J., Yalamanchi, S., Moorthy, M., Chou, F.-C., **Djuric, N.** “Systems and Methods for Training Predictive Models for Autonomous Devices”, US Patent no. 11,762,391, 2023. (*continuation of US Patent no. 11,442,459, 2022.*)
 - [8] **Djuric, N.**, Cui, H., Nguyen, T., Chou, F.-C., Lin, T.-H., Schneider, J., Bradley, D. M. “Motion Prediction for Autonomous Devices”, US Patent no. 11,635,764, 2023.
 - [9] **Djuric, N.**, Radosavljevic, V. “Personalizing Ride Experience based on Contextual Ride Usage Data”, US Patent no. 11,488,277, 2022. (*continuation of US Patent no. 10,482,559, 2019.*)
 - [10] Bhagwan, V., Carpenter, B., Grbovic, M., Sharp, D., Radosavljevic, V., **Djuric, N.** “Computerized System and Method for Augmenting Search Terms for Increased Efficiency and Effectiveness in Identifying Content”, US Patent no. 11,263,664, 2022.
 - [11] Haynes, G. C., Dewanker, I., **Djuric, N.**, Huang, T.-K., Lan, T., Lin, T.-H., Marchetti-Bowick, M., Radosavljevic, V., Schneider, J., Styler, A. D., Traft, N., Wang, H., Stentz, A. J. “Machine Learning for Predicting Locations of Objects Perceived by Autonomous Vehicles”, US Patent no. 10,579,063, 2020.
 - [12] **Djuric, N.**, Houston, J. “Neural Network System for Autonomous Vehicle Control”, US Patent no. 10,452,068, 2019.

- BOOK CHAPTERS
- [1] **Djuric, N.**, Grbovic, M., Vucetic, S. “Distributed Confidence-Weighted Classification on Big Data Platforms”, in *V. Govindaraju, V. Raghavan, C. R. Rao (Editors), “Handbook of Statistics: Big Data Analytics”, vol. 33, Elsevier, 2015.*

- [1] Waqar, R., Grbovic, Z., Khan, M., Pajevic, N., Stefanovic, D., Filipovic, V., Panic, M., **Djuric, N.** “End-to-End Deep Learning Models for Gap Identification in Maize Fields”, Workshop on ‘Agriculture-Vision: Challenges & Opportunities for Computer Vision in Agriculture’ at CVPR (**V4A**), Seattle, USA, 2024.
- [2] Culjak, B., Pajevic, N., Filipovic, V., Stefanovic, D., Grbovic, Z., **Djuric, N.**, Panic, M. “Exploration of Data Augmentation Techniques for Bush Detection in Blueberry Orchards”, Workshop on ‘Precognition: Seeing through the Future’ at CVPR (**Precognition**), Seattle, USA, 2024.
- [3] Fan, M., Bidstrup, C., Su, Z., Owens, J., Yang, G., **Djuric, N.** “Detection of Active Emergency Vehicles using Per-Frame CNNs and Output Smoothing”, Workshop on ‘Vision-Centric Autonomous Driving’ at CVPR (**VCAD**), Vancouver, Canada, 2023.
- [4] Filipovic, V., Stefanovic, D., Pajevic, N., Grbovic, Z., **Djuric, N.**, Panic, M. “Bush Detection for Vision-based UGV Guidance in Blueberry Orchards: Data Set and Methods”, Workshop on ‘Precognition: Seeing through the Future’ at CVPR (**Precognition**), Vancouver, Canada, 2023.
- [5] Cui, H., Chou, F.-C., Charland, J., Vallespi-Gonzalez, C., **Djuric, N.** “Uncertainty-aware Vehicle Orientation Estimation for Joint Detection-Prediction Models”, Workshop on ‘Machine Learning for Autonomous Driving’ at NeurIPS (**ML4AD**), virtual, 2020.
- [6] Mohta, A., Chou, F.-C., Becker, B. C., Vallespi-Gonzalez, C., **Djuric, N.** “Investigating the Effect of Sensor Modalities in Multi-Sensor Detection-Prediction Models”, Workshop on ‘Machine Learning for Autonomous Driving’ at NeurIPS (**ML4AD**), virtual, 2020.
- [7] Su, Z., Wang, C., Cui, H., **Djuric, N.**, Vallespi-Gonzalez, C., Bradley, D. “Temporally-Continuous Probabilistic Prediction using Polynomial Trajectory Parameterization”, Workshop on ‘Machine Learning for Autonomous Driving’ at NeurIPS (**ML4AD**), virtual, 2020.
- [8] Niedoba, M., Cui, H., Luo, K., Hegde, D., Chou, F.-C., **Djuric, N.** “Improving Movement Prediction of Traffic Actors using Off-road Loss and Bias Mitigation”, Workshop on ‘Machine Learning for Autonomous Driving’ at NeurIPS (**ML4AD**), Vancouver, Canada, 2019.
- [9] Chou, F.-C., Lin, T.-H., Cui, H., Radosavljevic, V., Nguyen, T., Huang, T.-K., Niedoba, M., Schneider, J., **Djuric, N.** “Predicting Motion of Vulnerable Road Users using High-Definition Maps and Efficient ConvNets”, Workshop on ‘Machine Learning for Intelligent Transportation Systems’ at NeurIPS (**MLITS**), Montreal, Canada, 2018.
- [10] Grbovic, M., Radosavljevic, V., Bhamidipati, N., Nagarajan, A., **Djuric, N.** “Leveraging Blogging Activity on Tumblr to Infer Demographics and Interests of Users for Advertising Purposes”, Workshop on ‘Making Sense of Microposts’ at WWW (**#Microposts**), Montreal, Canada, 2016.
- [11] **Djuric, N.**, Grbovic, M., Görür, D., Radosavljevic, V. “How Much Do Age and Gender Affect News Topic Preferences?”, Workshop on ‘Data Science for News Publishing’ at KDD (**NewsKDD**), New York City, USA, 2014.
- [12] Radosavljevic, V., Grbovic, M., **Djuric, N.**, Bhamidipati, N., Vucetic, S. “Large-scale World Cup 2014 Outcome Prediction Based on Tumblr Posts”, Workshop on ‘Large-Scale Sports Analytics’ at KDD (**SportsKDD**), New York City, USA, 2014.
- [13] Grbovic, M., **Djuric, N.**, Vucetic, S. “Learning from Pairwise Preference Data using Gaussian Mixture Model”, Workshop on ‘Preference Learning’ at ECAI (**PL-ECAI**), Montpellier, France, 2012.
- [14] Lan, L., **Djuric, N.**, Guo, Y., Vucetic, S. “Protein Function Prediction by Integrating Different Data Sources”, Automated Function Prediction SIG featuring the CAFA Challenge: Critical Assessment of Function Annotations (**AFP/CAFA**), Vienna, Austria, 2011.

- [15] **Djuric, N.**, Vucetic, S. “Random Kernel Perceptron on ATTiny2313 Microcontroller”, Workshop on ‘Knowledge Discovery from Sensor Data’ at KDD (**SensorKDD**), Washington DC, USA, 2010.

SELECTED TALKS	Mathematical Institute of the Serbian Academy of Sciences and Arts, Belgrade	
	Invited talk, “Long-range Detection for Safer AD Systems”	April 2025
	Invited talk, “Object Detection and Motion Prediction for Safe Self-Driving”	July 2021
	Invited talk, “Self-Driving Cars and AI: Transforming our Cities and our Lives”	Dec. 2019
	Invited talk, “Machine Learning for Computational Advertising”	May 2015
	Invited talk, “Big Data Algorithms for Visualization and Supervised Learning”	Dec. 2013
	Auto.AI USA Conference, San Francisco	
	Invited talk, “Perception for Autonomous Trucking: Long-range Challenges”	June 2024
	Auto.AI USA Conference, San Francisco	
	Invited talk, “Perception for Autonomous Trucking: Lessons from the Trenches”	June 2023
	Auto.AI Europe Conference, Berlin	
	Invited talk, “End-to-end Joint Object Detection and Motion Forecasting Models for Autonomous Driving”	Sept. 2022
	Auto.AI USA Conference, Detroit	
	Invited talk, “End-to-end Joint Object Detection and Motion Forecasting Models for Autonomous Driving”	June 2022
	Tech.AD USA Conference, Detroit	
	Invited talk, “Object Detection and Motion Forecasting for Safe Self-Driving using Raster-based Methods”	Nov. 2021
	Auto.AI USA Conference, San Francisco	
	Invited talk, “Object Detection and Motion Forecasting for Safe Self-Driving using Raster-based Methods”	July 2021
	Workshop on Autonomous Vehicle Vision (at WACV 2021), Waikaloa	
	Keynote talk, “Object Detection and Motion Prediction for Safe Self-Driving using Raster-based Methods”	Jan. 2021
	UberML’20, annual internal Uber conference on Machine Learning	
	Keynote talk, “Raster-based Motion Prediction for Safe Self-Driving”	Oct. 2020
	AI Day Conference, ”Rising to the Challenges” by VinAI Research, Vietnam	
	Keynote talk, “Object Detection and Motion Prediction at Uber ATG”	Sept. 2020
	Workshop on Benchmarking Traj. Forecasting Models (at ECCV 2020), Glasgow	
	Invited talk, “Raster-based Motion Prediction for Safe Self-Driving”	Aug. 2020
	Workshop on AI for Autonomous Driving (at ICML 2020), Vienna	
	Invited talk, “Human-Motion Prediction for Self-Driving Vehicles”	July 2020
	PyData Córdoba, Argentina	
	Invited talk, “Perception and Prediction at Uber ATG”	Sept. 2019
	Keynote talk, “Self-Driving Cars and AI: Transforming our Cities and our Lives”	Sept. 2018
AWARDS	Honorable Mention in Information Retrieval and Recommendation	March 2022
	AI 2000 Most Influential Scholar (list of world’s top 100 researchers), ArnetMiner	

Outstanding Paper Award AI and Computational Sustainability track, IJCAI-13, Beijing, China	Aug. 2013
Temple University Graduate Fellowship Temple University, Philadelphia	2009 – 2013
Fellowship for Graduate Students Ministry of Science and Technology, Serbia	2010 – 2011
Scholarship for Outstanding Undergraduate Students Ministry of Science and Technology, Serbia	2004 – 2008
First Prize in Physics National High School Competition, Serbia	March 2002

ACADEMIC SERVICE

Organizer and Program Committee (PC) Chair (workshops): Precognition: Seeing through the Future (@CVPR 2019–2025); AdKDD (@KDD, 2019–2025); Autonomous Vehicle Vision (@ICCV, 2021; @ECCV, 2022); AdKDD and TargetAd (@KDD, 2017–2018); Ad Targeting at Scale (TargetAd@WWW, 2015; @WSDM, 2016)

Special Event Organizer (conferences): Artificial Intelligence for Autonomous Driving (panel @ IEEE Conf. on Artificial Intelligence, CAI 2023); Autonomous Vehicle Vision (special session @ IROS 2021); Autonomous Vehicle Vision (special session @ IEEE Int'l Conf. on Image Processing, ICIP 2021)

Senior PC Member (conferences): AAAI Conf. on Artificial Intelligence (AAAI, 2022); ACM Int'l Conf. on Web Search and Data Mining (WSDM, 2020); Int'l World Wide Web Conf. (WWW, 2018–2020)

PC Member (conferences): ACM SIGKDD Conf. on Knowledge Discovery and Data Mining (KDD, 2015–2021, 2025–2026); IEEE Winter Conf. on Applications of Computer Vision (WACV, 2020–2026); ACM Int'l Conf. on Web Search and Data Mining (WSDM, 2018–2019, 2023–2026); Conf. on Neural Information Processing Systems (NeurIPS, 2016, 2018–2025); IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR, 2023–2025); IEEE/CVF Int'l Conf. on Computer Vision (ICCV, 2023, 2025); European Conf. on Artificial Intelligence (ECAI, 2024–2025); Int'l Conf. on Data Mining (ICDM, 2014–2025); Int'l Conf. on Machine Learning (ICML, 2019, 2021–2025); Int'l Conf. on Artificial Intelligence and Statistics (AISTATS, 2025); IEEE Intelligent Transportation Systems Conf. (ITSC, 2020–2025); IEEE Int'l Conf. on Robotics and Automation (ICRA, 2019–2020, 2022–2023, 2025); Asian Conference on Machine Learning (ACML, 2025); Int'l ACM SIGIR Conf. on Research and Development in Information Retrieval (SIGIR, 2020–2025); Int'l ACM SIGIR Conf. on Research and Development in Information Retrieval in the Asia Pacific Region (SIGIR-AP, 2025); Int'l Conf. on Learning Representations (ICLR, 2019–2025); Int'l Conf. on Computational Linguistics (COLING, 2020, 2022, 2025); Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD, 2024–2025); American Medical Informatics Association Annual Symposium (AMIA, 2018–2020, 2023–2025); IEEE Int'l Conf. on Machine Learning and Applications (ICMLA, 2021–2025); AMIA Clinical Informatics Conf. (ACIC, 2025); British Machine Vision Conference (BMVC, 2024–2025); European Conf. on Computer Vision (ECCV, 2024); Int'l Conf. on Information and Knowledge Management (CIKM, 2017–2024); Joint Int'l Conf. on Computational Linguistics, Language Resources and Evaluation (LREC-COLING, 2024); Annual Meeting of the Association for Computational Linguistics (ACL, 2018, 2021, 2023–2024); Int'l Conf. on Pattern Recognition (ICPR, 2024); IEEE Int'l Conf. on Big Data (BigData, 2017–2024); AIx Science, Engineering, and Technology (AIxSET/TransAI, 2019–2024); Int'l Conf. on Information Management and Big Data (SIM-Big, 2024); IEEE/RSJ Int'l Conf. on Intelligent Robots and Systems (IROS, 2021–2023); ACM Web Conf. (WebConf, 2022–2023); Conf. on Empirical Methods in Natural Language Processing (EMNLP, 2020–2023); European Chapter of the Association for Computational Linguistics (EACL, 2021, 2023); Asia-Pacific Chapter of the Association for Computational Linguistics and the Int'l Joint Conf. on Natural Language Processing (AACL-IJCNLP, 2020, 2022–2023); SIAM Int'l Conf. on Data Mining (SDM, 2022); AAAI Conf. on Artificial Intelligence (AAAI, 2015–2018, 2020–2021); IEEE Intelligent Vehicles Symposium (IV, 2019–2021); Conf. of the North American Chapter of the ACL - Human Language Technologies (NAACL-HLT, 2018, 2021); Int'l

Joint Conf. on Artificial Intelligence (IJCAI, 2016–2017, 2020); Robotics: Science and Systems Conf. (RSS, 2019); Int’l World Wide Web Conf. Satellites (WWWSatellites, 2018); IEEE Int’l Conf. on Big Knowledge (ICBK, 2017)

Reviewer (journals): IEEE Robotics & Automation Letters (2025); Array (2024–2025); Pattern Recognition (2025); Expert Systems with Applications (2025); Transportation Research Record: Journal of the Transportation Research Board (2023–2025); Heliyon (2023–2025); Computers and Electrical Engineering (2024–2025); IEEE Trans. on Intelligent Transportation Systems (2019–2020, 2022–2025); Open Research Europe (2025); Int’l Journal of Human-Computer Interaction (2024–2025); Nature Scientific Reports (2024); Sustainable Cities and Society (2024); IEEE Trans. on Geoscience and Remote Sensing (2023); IEEE Robotics and Automation Letters (2020, 2022–2023); Robotics and Autonomous Systems (2023); IEEE Trans. on Computational Social Systems (2021–2023); IEEE Trans. on Knowledge and Data Engineering (2015, 2020–2021, 2023); Future Generation Computer Systems (2022); IEEE Access (2016–2018); Journal of Universal Computer Science (2017); IEEE Geoscience and Remote Sensing Letters (2015); Journal of Selected Topics in Applied Earth Observations and Remote Sensing (2013–2015); PLOS One (2014); IEEE Computer (2014); Journal of Natural Language Engineering (2014); Applied Spectroscopy (2014); Optimization Methods and Software (2013)

PC Member (workshops): Machine Learning for Autonomous Driving (@NeurIPS, 2019–2023; @AAAI, 2025); Challenge Of Out Of Label Hazards In Autonomous Driving (@ICCV, 2025); Agriculture-Vision: Challenges & Opportunities for Computer Vision in Agriculture (@CVPR, 2024–2025); Autonomous Vehicles across Scales (@RSS, 2024); Long-term Human Motion Prediction (@ICRA, 2020, 2023–2025); Two-sided Marketplace Optimization: Search, Pricing, Matching & Growth (@KDD, 2024–2025); Widening Natural Language Processing (@EMNLP, 2024–2025); Threat, Aggression and Cyberbullying (@COLING, 2018, 2022; @LREC, 2020; @LREC-COLING, 2024); Online Abuse and Harms (@EMNLP, 2020; @ACL, 2021, 2023; @NAACL, 2022, 2024); Artificial Intelligence for Autonomous Driving (@IJCAI, 2022); Fresh Perspectives on the Future of Autonomous Driving (@ICRA, 2022); Data Science with Human in the Loop (@KDD, 2020–2021; @NAACL, 2021; @EMNLP, 2022); Autonomous Vehicle Vision (@WACV, 2021); Abusive Language Online (@ACL, 2017, 2019; @EMNLP, 2018); Query Understanding and Reformulation for Mobile and Web Search (@WSDM, 2016); Early Classification of Complex Events (@SDM, 2016)

Session Chair (conferences): IEEE Int’l Conf. on Robotics and Automation (ICRA, 2021); IEEE Int’l Conf. on Image Processing (ICIP, 2021); Int’l Conf. on Data Mining (ICDM, 2020); AAAI Conf. on Artificial Intelligence (AAAI, 2014)

PhD Thesis Committee Member: Naga VS Raviteja Chappa (Jan. 2025, U. of Arkansas)

TEACHING
EXPERIENCE

Computer and Information Sciences Department

2011 – 2012

Temple University, Philadelphia, PA, USA

- **Courses.** Artificial Intelligence (**graduate-level course**), Computer Systems and Low-Level Programming (**Assembly, C**), Cyberspace and Society (**Dreamweaver**)

SKILLS

Programming Languages and Tools

C/C++, Python, awk, Matlab/Octave, Hadoop, PHP, SQL, HTML, git

OTHER INFO

Member of Mensa, Chess Candidate Master title