B212 – Computational & Algorithmic Challenges for AI Applications in CAVs

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Alexandre Bayen is the Liao-Cho Professor of Engineering at UC Berkeley in Electrical Engineering and Computer Science and Civil and Environmental Engineering. He is the Director of the Institute of Transportation Studies (ITS), and a Faculty Scientist in Mechanical Engineering, at the Lawrence Berkeley National Laboratory (LBNL). He received an Engineering Degree in applied mathematics from the Ecole Polytechnique, France 1998), and his M.S. and Ph.D. in aeronautics and astronautics from Stanford University (1999 and 2004). He was a Visiting Researcher at NASA Ames Research Center (2000-2003), and in 2004 was as the Research Director of the Autonomous Navigation Laboratory at the Laboratoire de Recherches Balistiques et Aerodynamiques, (Ministere de la Defense, Vernon, France), where he holds the rank of Major. Since joining the faculty of UC Berkeley in 2005, he has authored two books and over 200 articles in peer-reviewed journals and conferences. He received the Ballhaus Award (Stanford University,2004), the CAREER (National Science Foundation, 2009), the Presidential Early Career Award for Scientists and Engineers (PECASE) award from the White House (2010), and was named one of NASA Top 10 Innovators on Water Sustainability (2010). His projects Mobile Century and Mobile Millennium received the 2008 Best of ITS Award for 'Best Innovative Practice', at the ITS World Congress and a TRANNY Award from the California Transportation Foundation, 2009. He is the recipient of the Okawa Research Grant Award, the Ruberti Prize from the IEEE, and the Huber Prize from the ASCE. Link to his website: https://bayen.berkeley.edu/alex-bayen .

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Dr. Xiaopeng (Shaw) Li is currently an associate professor in the Department of Civil and Environmental Engineering at the University of South Florida (USF). He is the director for one USDOT national university transportation center, National Institute for Congestion Reduction (NICR). He established the Connected and Automated Transportation Systems Lab that houses two L3 connected automated vehicles. He is the first holder of the Susan A. Bracken Faculty Fellowship at USF and is a recipient of a National Science Foundation (NSF) CAREER award. He has served as the PI or a co-PI for a number of federal (NSF, USDOT, USDOE), local (e.g., state DOTs, UTCs, I-4 Corridor Program) and industry grants. He has published around 80 peer-reviewed journal papers. His major research interests include automated vehicle traffic control and connected & interdependent infrastructure systems. Please check http://cee.eng.usf.edu/faculty/xiaopengli for more information.

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Dr. Lochrane is the CARMA Program Manager at U.S. Department of Transportation, Federal Highway Administration in the Office of Operations Research and Development. He is currently leading and managing the CARMA Program, part of a USDOT effort to accelerate the research and development of Cooperative Driving Automation (CDA). The CARMA Program is leveraging open source software and using agile software development practices to accelerate innovative concepts aimed to increase the safety and improve the overall infrastructure efficiency of the transportation system using CDA technology. This Program enables a

larger community to participate in the development thought open collaboration and testing for the acceleration of CDA strategies and enabling technology from research to market.

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Dr. Osman is the Assistant Professor of Intelligent Transportation Systems and Data Analytics in the Department of Civil and Chemical Engineering (CCE) and the Mobility Thrust Lead in the Center for Urban Informatics and Progress at the University of Tennessee at Chattanooga (UTC). Prior to joining UTC, he was a research faculty at the Center for Sustainable Mobility at Virginia Tech Transportation Institute (VTTI). He holds a PhD degree from Louisiana State University on the User and System Characteristics of Connected Vehicle Technology. He received his B.S and M.S. degrees in Civil Engineering with focus on Transportation Engineering and Traffic Flow Modeling in 2006 and 2010, respectively. He is the Chair of the Communications Subcommittee and Research Coordinator of the Transportation Research Board Standing Committee on Artificial Intelligence and Advanced Computing Applications. He is also an active member of the SAE standards committee on Cooperative Driving Automation.

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Nitin Wagh is a Principal ML Specialist with Amazon AI. He likes the opportunity to help customers understand Machine Learning and the power of Human in Loop services in the AWS cloud. In his spare time, he loves spending time with family in outdoor activities.

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