Jianyu Su

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Education

University of Virginia — Charlottesville, VA
Ph.D. in Systems & Information Engineering — *Jan. 2017 – May 2021*

University of Virginia — Charlottesville, VA
M.E. in Systems & Information Engineering — *Aug. 2015 – Dec. 2016*

Technical Skills

Languages: Python, SQL (Postgres), JavaScript, R, Java
Libraries: Pytorch, TensorFlow, NumPy, pandas, Matplotlib

Experience

Research Scientist Intern (Cooperative Automated Driving) — Jan. 2021 – May 2021
Toyota InfoTech Labs — *Mountain Veiw, CA*

- Building high fidelity highway on-ramp simulation and conduct research on deep learning based cooperative automated driving for mixed traffic
- Communicate my research with my collaborators and supervisor. File invention disclosures

Research Scientist Intern (Digital Twins) — June 2019 – Aug. 2019
Toyota InfoTech Labs — *Mountain View, CA*

- Conducted research on automated driving for connected vehicles, leading to a publication. Communicated with principle researchers, as well as the patent office, to extend a patent from the publication
- Developed a $5k$-line Python TensorFlow deep learning repository for vehicle trajectory prediction

Graduate Research Assistant (Professor Beling's Lab) — Jan. 2017 – Present
University of Virginia — *Charlottesville, VA*

- Investigated deep learning, deep reinforcement learning, and their applications on cyber-physical systems such as smart building, smart city. My work is accepted or presented at venues such as AAAI, ITSC, BuildSys
- Lead the writing of multiple proposals for external funding. A one-year $75k$ grant was supported by UANGEL, Inc., a Korean IoT company, and funded through the Center for Visual and Decision Informatics, an NSF Industry University Cooperative Research Center
- Collaborated with researchers from Civil Engineering, Mechanical Engineering, and Computer Engineering on Cyber-Physical Systems research, leading to numerous publications

Seleted Publications

- **Su, Jianyu**, Stephen Adams, and Peter A. Beling. "Value-Decomposition Multi-Agent Actor-Critics." arXiv preprint arXiv:2007.12306 (2020). (Accepted by AAAI 2021)
- **Su, Jianyu**, Peter A. Beling, Rui Guo, and Kyungtae Han. "Graph convolution networks for probabilistic modeling of driving acceleration." In 2020 IEEE 23rd International Conference on Intelligent Transportation Systems (ITSC), pp. 1-8. IEEE, 2020.
- Wang, Alan, **Jianyu Su**, Arsalan Heydarian, Bradford Campbell, and Peter Beling. "Is my sensor sleeping, hibernating, or broken? A data-driven monitoring system for indoor energy harvesting sensors." In Proceedings of the 7th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation, pp. 210-219. 2020.
- Wang, Wenpeng, **Jianyu Su**, Zackary Hicks, and Bradford Campbell. "The Standby Energy of Smart Devices: Problems, Progress, & Potential." In 2020 IEEE/ACM Fifth International Conference on Internet-of-Things Design and Implementation (IoTDI), pp. 164-175. IEEE, 2020.

Patents

- **Su, Jianyu**, Kyungtae Han, Rui Guo and Roger Melen. Systems and Methods for Driving Recommendations. US Patent 16/689,255, filed Nov 20, 2019.
- Arsalan Heydarian, Brad J. Campbell, Peter Beling, Alan Wang and **Jianyu Su**. Data-Driving Monitoring System for Energy Harvesting Sensors and Related Methods Thereof. U.S. Provisional Patent 63/107,204, filed on October 29, 2020.