Kalvik Jakkala

Machine learning PhD Student,
University of North Carolina at Charlotte

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Research interests

- Gaussian processes
- Bayesian learning
- Deep learning
- Informative path planning and sensor placement

Education

PhD in Computer Science
University of North Carolina at Charlotte
Advised by: Professor Srinivas Akella

MSc in Computer Science
University of North Carolina at Charlotte
Concentration in AI, Robotics, and Gaming
GPA: 4.00

BSc in Computer Science
Wichita State University
Minor in Mathematics
GPA: 3.45

Activities/Awards

Dean's Honor Roll
May 2018, May 2017, Dec 2016, Dec 2014
Recognized for outstanding academic performance by the Dean's office

Vice President, Association for Computing Machinery (ACM)
Aug 2015—Dec 2016
Managed the local chapter of ACM and organized educational events on campus

Vice President, Institute of Electrical and Electronics Engineering (IEEE)
Aug 2015—Dec 2016
Managed the local chapter of IEEE and organized educational events on campus

Skills

Linux, AWS, Microsoft Azure, GCP, Slurm, Python, C/C++, Matlab, SQL, Bash Scripting, Tensorflow, PyTorch, OpenCV, ROS, SciPy, Pandas, Open MPI, Numpy, Pyro, PyMC3, GPflow

Publications

Kalvik Jakkala and Srinivas Akella.
Bayesian Sensor Placement for Multi-source Localization of Viruses in Wastewater Networks.
Manuscript submitted for publication, 2022.

Kalvik Jakkala and Srinivas Akella.
Probabilistic Gas Leak Rate Estimation using Submodular Function Maximization with Routing Constraints.
IEEE Robotics and Automation Letters (RA-L), IEEE International Conference on Robotics and Automation (ICRA), 2022.

Kalvik Jakkala.
Deep Gaussian Processes: A Survey.
arXiv, 2021.

Kalvik Jakkala, Chen Chen, Minwoo Lee, Arupjyoti Bhuyan, Zhi Sun, and Pu Wang.
Spatio-Temporal Domain Adaptation for Gait Based User Recognition from Radar Data.
Preprint, 2020.

Prabhu Janakaraj, Kalvik Jakkala, Arupjyoti Bhuyan, Zhi Sun, Pu Wang, and Minwoo Lee.
STAR: Simultaneous Tracking and Recognition Through Millimeter Waves and Deep Learning.
12th IFIP Wireless and Mobile Networking Conference (WMNC), 2019.

Kalvik Jakkala, Arupjyoti Bhuyan, Zhi Sun, and Pu Wang.
Deep CSI Learning for Gait Recognition At-Scale.
Third International Balkan Conference on Communications and Networking (BalkanCom), 2019.

Akarsh Pokkunuru, Kalvik Jakkala, Arupjyoti Bhuyan, Pu Wang, and Zhi Sun.
NeuralWave:Gait-based User Identification through Commodity WiFi and Deep Learning.
Proc. of 44th Annual Conference of the IEEE Industrial Electronics Society (IECON), 2018.

Research

Pose Estimation and Action Recognition with mmWave Radar Devices
May 2019—May 2020
Analysed and developed deep learning algorithms for pose estimation and action recognition from 76-80 GHz band devices

Real-time Depth Estimation from Monocular Images
Jan 2017—Dec 2017
Studied and deployed deep learning methods for real-time depth estimation from monocular images in autonomous underwater and aerial drones

Autonomous Underwater Vehicle (Team-Leader)
May 2016—May 2018
Designed, built, programmed, and tested a complete 6DOF capable underwater vehicle from scratch (**Nvidia Jetson SoC**)

Autonomous Indoor Environment Mapping Drone (Team)
Aug 2015—May 2016
Worked on path planning and object avoidance algorithms for a quad-copter capable of indoor environment mapping (**Pixhawk, Raspberry Pi SoC**)

Teaching

Teaching Assistant
- Graduate Machine Learning course
- Graduate Algorithms & Data Structures course
- Undergraduate Object-oriented Programming course
- Undergraduate Data structures course
- Undergraduate Introductory C++ programming course