Dennis Melamed

763-656-9518
dennis@dennismelamed.me
www.dennismelamed.me

Programming Languages: Python, C++, Embedded C, MATLAB, Java
Robotics Tools: Robotic Operating System, Gazebo, V-REP, OpenCV, Keras, PyTorch
Other Tools: Unix ecosystem, Windows kernel development, CUDA/openACC
Languages: English (native), Russian (native), Spanish (proficient)

EDUCATION

Carnegie Mellon University *2019 – 2021 (expected)*

- Master of Science in Robotics, Research Thesis Advisor: Prof. Kris Kitani
- Selected Coursework: Computer Vision; Kinematics, Dynamics & Control; Localization & Mapping; Reinforcement Learning

University of Minnesota *2015 – 2019*

- Bachelor of Science (Honors) in Computer Engineering, Summa Cum Laude with Distinction
- Thesis: *Indoor Micro-UAV Navigation with Minimal Sensing* (Prof. Volkan Isler & Prof. Derya Aksaray)
- IEEE-Eta Kappa Nu – Omicron Student Chapter – Vice President 2018-2019

PUBLICATIONS

Inertial Deep Orientation-estimation and Localization *2019-2020*

- State-of-the-art deep-learning method for IMU-only pedestrian localization
- *Scott Sun, Dennis Melamed, Kris Kitani. "Inertial Deep Orientation-estimation and Localization". AAAI 2021 (in press)*

WORK EXPERIENCE

Nextdroid Robotics, Software Engineering Intern *Summer 2018*

- Achieved sensorless high-precision motor speed control for subsea robotic platform
- Co-developed high-accuracy image processing pipeline on military hardware
- Designed data storage architecture using Ruby/AWS for secure client data processing

National Instruments, Software Engineering Intern *Summer 2017*

- Implemented network interfaces for measurement device drivers
- Developed encryption schemes for device firmware/driver communication

Robotic Sensor Network Laboratory, Research Assistant *2015-2019*

- Research in autonomous robotic rendezvous problems
- Development of GPS-denied micro-UAV platform for agricultural monitoring

Department of Civil Engineering, Computer Science Research Assistant *2015-2016*

- Massively parallelized state-of-art wave algorithms & designed MN Dept. of Transport user interfaces

Laketrails Base Camp, Guide *2014-2015*

- Led teenagers on five day canoe trips in Northern Minnesota

MORE PROJECTS

Gesture Based Micro-UAV Control *Fall 2017*

- High precision gesture tracking to control micro-UAV flight & control language for flight plans

Micro-UAV Agricultural Monitoring Platform *2017-2019*

- Lightweight (<50g) fully autonomous system for data collection in restricted environments

Campchat *Summer 2020*

- Android app + hardware allowing LoRa text communication when cell networks are unavailable