Dennis Melamed

763-656-9518

dennis@dennismelamed.me

www.dennismelamed.me

**Programming Languages:  
Robotics Tools:**

**Other Tools:**

**Languages:**

Python, C++, Embedded C, MATLAB, Java

Robotic Operating System, Gazebo, V-REP, OpenCV, Keras, PyTorch

Unix ecosystem, Windows kernel development, CUDA/openACC

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