Dennis Melamed

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EDUCATION

University of Minnesota: Minneapolis, MN 2015- expected graduation 2019

- College of Science and Engineering (Honors)
- B.S. Computer Engineering (3.848 GPA)

  Relevant Coursework: Intelligent Robotic Systems, Image Processing, Sensing & Estimation in Robotics, Digital/Integrated Circuits, Discrete Structures, Algorithms & Data Structures I-II, Microcontrollers, Signals and Systems
- IEEE-Eta Kappa Nu Honors Society Vice President Fall 2018-present

WORK EXPERIENCE

Software Engineering Intern, Nextdroid Systems 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

Software Engineering Intern, National Instruments Summer 2017

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

Research Assistant, Robotic Sensor Network Laboratory 2015-present

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

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

- Massively parallelized state-of-the-art wave propagation algorithms
- Designed user interface for MN Department of Transportation

Guide, Laketrails Base Camp: Oak Island, MN 2014-2015

- Led teenagers on five day canoe trips in Northern Minnesota

PROJECTS

Gesture Based Micro-UAV Control Fall 2017

- High precision gesture tracking system to control micro-UAV flight
- Control language for on-the-fly operator-designed macros

Micro-UAV Agricultural Monitoring Platform Fall 2017-present

- Fully autonomous system for data collection in restricted environments
- Lightweight (< 50g) package for quick and easy deployment

Contour Plot Software/Wrappers Spring 2016

- Java software rapidly reads/processes/displays data from ground penetrating radar

iRobot Create Autonomous Navigation Fall 2015

- C++ implementation of autonomous navigation algorithm with minimal sensing

Open Source Robotic Macro Recording Package 2014-2015

- Java software for FIRST teams for recording/playback of autonomous movements

CERTIFICATIONS AND SKILLS

- C++
- Embedded C
- Java
- Python
- Unix development
- Windows Kernel development
- Robotic Operating System
- Gazebo & V-REP simulation
- CUDA/openACC parallelization
- Microchip Assembly
- Russian fluency
- Spanish proficiency