SKILLS

**Programming Languages:** C++, Embedded C, Python, MatLab, Java

**Robotics Tools:** Robotic Operating System, Gazebo, V-REP, OpenCV, Keras, PyTorch

**Other Tools:** Unix development, Windows kernel development, CUDA/openACC

**Languages**: Russian (fluent), Spanish (proficient)

# **Dennis Melamed**

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EDUCATION

**University of Minnesota: Minneapolis, MN** 2015- May 2019 (expected)

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

Relevant Coursework: Intelligent Robotic Systems, Image Processing, Microcontrollers,

Sensing & Estimation in Robotics, Digital/Integrated Circuits, Signals and Systems

Honors Thesis: *Indoor Micro-UAV Navigation with Minimal Sensing (In Progress)*

* + Advisors: Professor Volkan Isler & Professor Derya Aksaray
* IEEE-Eta Kappa Nu Honors Society Vice President Fall 2018-present

# WORK EXPERIENCE

**Software Engineering Intern, Nextdroid Robotics** 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 GPS-denied 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