# Karin de Langis

## Contact Information

Department of Computer Science and Engineering
University of Minnesota
200 Union St SE
Minneapolis, MN 55155

**E-mail**: dento019@umn.edu

## Education

**University of Minnesota**, Minneapolis, Minnesota
Ph.D. Student, Department of Computer Science and Engineering
Expected graduation: 2024

- Coursework focuses on artificial intelligence and machine learning.
- Advised by Junaed Sattar.

**Pomona College**, Claremont, CA
B.A. in Linguistics and Cognitive Science, *magna cum laude*
2011 - 2015

- Thesis: *Cognitive Patterns in Mind Wandering and Anxiety*
- Advised by Deborah Burke.
- Minored in Computer Science.

## Publications

**Karin de Langis** and Junaed Sattar. "Real-Time Multi-Diver Tracking and Re-identification for Underwater Human-Robot Collaboration." In *2020 IEEE International Conference on Robotics and Automation (ICRA)*. 2020.

**Karin de Langis***, Michael Fulton*, and Junaed Sattar. “An Analysis of Deep Object Detectors For Diver Detection.” (Submitted.) *both authors contributed equally to this paper.

Jungseok Hong, **Karin de Langis**, Cole Wyeth, Chris Walaszek, and Junaed Sattar. “Semantically-Aware Strategies for Stereo-Visual Robotic Obstacle Avoidance.” (Submitted.)

## Awards

*Distinction in the Senior Exercise*
Pomona College, 2015

*Summer Undergraduate Research Project Funding*
Pomona College, 2013, 2014

## Research Experience

**Ph.D. Student Researcher, University of Minnesota**

- Member of the Interactive Robotics and Vision Lab.
- Research interests include safe application of machine learning to robotic platforms, incorporating model explainability into human-robot interactions, and graceful failure and risk estimation for field robotics.

**Undergraduate Research Assistant, Harvard University**

- Research assistant at the Schacter Memory Lab.

- Programmed experiments, conducted behavioral experiments, and assisted with data analysis, including analysis of neural imagining (fMRI) data. Participated in weekly lab meetings and discussions.

### Undergraduate Research Assistant, Pomona College

- Research assistant at the Cognition and Aging Lab.
- Conducted and analyzed data for behavioral experiments that explored the tip-of-the-togue phenomenon, and possible interventions, in older adults.

## Work Experience

### **Software Engineer /** Originate, Inc.

2015 - 2018

- Co-technology lead on a team that built a web application for a client in the financial industry. Designed core application architecture and was a primary point-of-contact for project management.
- Fixed bugs on an iOS app with over a million active users. Improved application performance using Xcode profiler tools.
- Developer on teams building and maintaining a variety of web and iOS applications for projects ranging from prototypes to enterprise applications. Frameworks and languages used include Node.js, Ruby on Rails, Swift, and Objective C.

## Outreach and Service

### UC Berkeley CS Scholars

2016 - 2017

- While working as a software engineer in San Francisco, initiated a connection between our office and UC Berkeley's CS Scholars to help underrepresented computer science students break into the tech industry.
- Organized a panel of software engineers to go to campus to speak with students who wanted to learn more about working in tech, how interviewers evaluate candidates, and what kinds of jobs are available in the tech industry.
- Organized a shadow day during spring break where interested students could spend the day in our office shadowing a software engineer.

### Miscellaneous Outreach, University of Minnesota

2019 - 2020

- Science for All volunteer. Meet with local middle schoolers about once per month to guide them through hands-on science experiments.
- Participated in the Women in Science and Engineering Grad-Undergrad Mentor Program to mentor an undergraduate STEM student at the University of Minnesota.
- Helped design and lead a day of group activities centered on our lab's robotics research for the Eureka! summer camp for middle school girls.
- Helped design and lead a day of group activities for the Discover STEM summer camp for high schoolers who are underrepresented in STEM.