

Nicole Chan

nschan3@illinois.edu

EDUCATION

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

M.S. ELECTRICAL AND
COMPUTER ENGINEERING

Expected May 2018

GPA: 3.5/4.00

UNIVERSITY OF ARIZONA

B.S. ELECTRICAL AND
COMPUTER ENGINEERING

May 2015 | GPA: 3.72/4.00

Magna Cum Laude

Minors in Mathematics,
Aerospace Engineering, and
Mechanical Engineering

PUBLICATIONS

• N. Chan, S. Mitra (2017).

Verified hybrid LQ control for autonomous spacecraft rendezvous. Accepted to *56th IEEE Conf. on Decision & Control.*

• N. Chan, S. Mitra (2017).

Verifying safety of an autonomous spacecraft rendezvous mission. In *4th Int'l Workshop on Applied Verification of Continuous and Hybrid Systems.*

RELATED COURSES

-Field Robotics
-Nonlinear & Adaptive Control
-Analysis of Nonlinear Systems
-Embedded Systems
-Control Systems Theory
-Embedded & Cyberphysical Systems Verification
-Distributed Algorithms
-Digital Control Systems
-Automatic Control
-Computational Techniques

SKILLS

C/C++ • Python • R • MATLAB •
C2E2 • SpaceX • ROS • OpenCV
• OrCAD Capture & PSpice •
MCUs (Arduino & PIC) •
Soldering & electronics lab
equipment

EXPERIENCE

GRADUATE TEACHING ASSISTANT | DEPT. OF ELECTRICAL AND COMPUTER ENGINEERING, UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

August 2017 - December 2017 | Urbana, IL

- Preparing and grading assignments for the graduate course: "Formal Verification of Embedded & Cyberphysical Systems."

GRADUATE RESEARCH ASSISTANT | DEPT. OF ELECTRICAL AND COMPUTER ENGINEERING, UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, DR. SAYAN MITRA

August 2015 - present | Urbana, IL

- Investigating formal verification of optimal control schemes, such as MPC.
- Applying verification techniques to variations of a benchmark autonomous satellite rendezvous and docking problem.
- Building a ROS-based ground vehicle platform that will employ a high-level robotic programming language framework for distributed applications.

SPACE SCHOLAR INTERN | AIR FORCE RESEARCH LABORATORY

June - August 2016 | Albuquerque, NM

- Verified passive safety of constrained, hybrid control for an autonomous satellite rendezvous operation.

UNDERGRADUATE LAB ASSISTANT (ECE175&275) | DEPT. OF ELECTRICAL AND COMPUTER ENGINEERING, UNIVERSITY OF ARIZONA

January 2013 - December 2014 | Tucson, AZ

- Instructed ~200 undergraduates on C/C++ programming during lab hours.

ELECTRICAL ENGINEERING INTERN | ATHENA WIRELESS COMMUNICATIONS

June - December 2014 | Surprise, AZ

- Drew electrical schematics for a 60GHz backhaul radio unit design.

CAT VEHICLE REU STUDENT RESEARCHER | UNIVERSITY OF ARIZONA

June - August 2013 | Tucson, AZ

- Generated a model of an autonomous vehicle's behavior with respect to steering command inputs, and used the model to improve a MATLAB vehicle simulation.

PROJECTS

F1/10 AUTONOMOUS RACE CAR

Fall 2016 | University of Illinois at Urbana-Champaign

- Assembled a modified hobby racecar and programmed object tracking/following.

LASER RANGEFINDER (SENIOR CAPSTONE PROJECT)

Fall 2014 - Spring 2015 | University of Arizona and Texas Instruments

- Served as Team Lead for six team members from multiple disciplines.
- Prototyped a tool to measure distances using optical time-of-flight data.

PATH-FOLLOWING ROBOT (ECE372 PROJECT)

Spring 2014 | University of Arizona

SERVICE

- CSL Student Conference 2018 (Media Chair) | Fall 2017-present
- ECE Student Advancement Committee (Graduate Committee) | Fall 2017-present
- GradSWE (2018 weSTEM Conference Publicity Chair) | Fall 2016-present
- Engineers Volunteering in STEM Education (Vice President) | Fall 2016 - present
- UA IEEE Student Branch (Chair/Vice Chair) | Fall 2012 - Spring 2015
- IEEE-HKN Iota Xi Chapter (Secretary) | Fall 2014 - Spring 2015
- Arizona Solar Racing Team | Fall 2012 - Fall 2013
- UA Honors College Extreme Discovery Teams | Fall 2011 - Spring 2013