

Zachary Zweig Vinegar

Current Address

202 College Ave. #3
Ithaca, NY 14850

(919) 257-0726

zzv2@cornell.edu

linkedin.com/in/zach-zweig-vinegar

Permanent Address

8415 Inverness Way
Chapel Hill, NC 27516

EDUCATION

Cornell University – Ithaca, NY

Class of 2017

College of Engineering – Computer Science Major

Artificial Intelligence Vector, Machine Learning Track

- Relevant Coursework: Matlab Programming, Web Design, Data-Driven Web Applications, Human Perception: Application to Computer Graphics, Object Oriented Programming, Data Structures & Functional Programming, Operating Systems, Analysis of Algorithms, Computer Vision, Robotic Manipulation, Mobile Manipulation, Artificial Intelligence with Practicum, Ethical Issues in Intelligent Autonomous Systems, Robotics Seminar
- Cumulative GPA: 3.25; Dean's List; Lambda Chi Alpha (Social Fraternity)

EXPERIENCE

Cornell Robotic Personal Assistants Lab (RPAL) – Ithaca, NY

June 2016 – Present

Robotics Engineer and Programmer

- Implemented a ROS interface for a telepresence robot and a 360° color and depth sensor
- Developed live 360° people detection and tracking algorithms for collision avoidance in crowded areas
- Improved the speed of our overall framework using memoization and multi-threaded synchronized data reading

Independent Study Project – Ithaca, NY

March 2015 – May 2016

"Explorations in Computer Science, Robotics, and Artificial Intelligence"

- Constructed and programmed a robot that creates 3D maps (Octomaps) and navigates autonomously
- Implemented a ROS interface and Unity mobile app for cooperative autonomous manipulation tasks and teleoperation
- Gained hands-on experience with websockets and augmented reality, while using computer vision and AI algorithms

Mars Outreach for North Carolina Students (MONS) – Durham, NC

June 2011 – August 2014

Robotics Programmer and Geosciences Researcher

- Designed an Arduino probe and Java UI to sample the temperature of rocks over long-term periods
- Analyzed the recorded thermal qualities to determine a relationship with specific heat

LEADERSHIP

Durham Academy Robotics and Tech Team – Durham, NC

July 2012 – May 2013

Founder and President

- Supplemented coursework from Advanced Robotics courses with visits to local robotics labs and lectures
- Competed with other high school students in Vex Robotics regional competition

Durham Academy Sailing Club – Durham, NC

August 2009 – May 2013

Founder and President

- US Sailing Small Boat, Keelboat, and Powerboat Certifications, Neil Cargile Sailing Award
- Received formal instruction in leadership and gained experience as a staff member

SKILLS

- **Software Experience:** AutoCAD, Adobe Creative Suite, Eclipse, Git, Unix, ROS, Unity, LabVIEW, LaTeX, Excel
- **Projects Using:** Java, C/C++/C#, Python, Matlab, OCaml, HTML, CSS, PHP, SQL, and JavaScript
- **Languages:** English, Mandarin, Spanish
- **Chinese Language Study Abroad** – 3 weeks at Wenzao Ursuline College in Kaoshiung, Taiwan

REFERENCES

Ross Knepper – Cornell University, Computer Science, Assistant Professor, RPAL
Howard Lineberger – Durham Academy Robotics, MONS

rak@cs.cornell.edu
howard.lineberger@da.org