# Eric Vin

Computer Science PhD Student at UCSC

(408) 609-2604 | ericvin@outlook.com / evin@ucsc.edu | Eric-Vin | ericevin

## Education

### PhD, University of California Santa Cruz

*Santa Cruz, CA*

GPA:

*September 2021 - Present*

- PhD in Computer Science
- Advised by Daniel Fremont

### BS/BA, University of California Santa Cruz

*Santa Cruz, CA*

GPA: 3.75/4.0

*September 2017 - June 2021*

- Bachelor of Science in Computer Science with Highest Honors
- Bachelor of Arts in Computational Mathematics with Highest Honors
- University Honors, Cum Laude

## Experience

### Undergraduate Researcher in Language, Systems and Data Lab

*Santa Cruz, CA*

University of California, Santa Cruz

*February 2021 - July 2021*

- Worked under Daniel Fremont at UCSC to complete a senior thesis extending the original Control Improvisation concept to allow for labelling of improvisations.
- Formalized new problem definitions for Labelled Control Improvisation, an extension of the original Control Improvisation problem. Provided efficient algorithms and rigorous guarantees for these new problems.

### Undergraduate Researcher in i-NRG Lab

*Santa Cruz, CA*

University of California, Santa Cruz

*February 2018 - July 2021*

- Worked on the PIMAP project under Katia Obraczka and Sam Mansfield at UCSC.
- PIMAP is ”a system architecture that presents a standard to collect medical device data, store it and analyze it in the Cloud, in a secure and private manner”.
- Implemented PIMAP framework for Sentinel and SmartDerm bandages for collecting, analysing, and visualizing data to detect and prevent pressure ulcers.

### Undergraduate Researcher in Design and Verification Lab

*Santa Cruz, CA*

University of California, Santa Cruz

*October 2019 - December 2020*

- Developed Wikitrust 2.0 project under Luca de Alfaro at UCSC.
- Wikitrust 2.0 is a revamped version of the original Wikitrust project. ”WikiTrust is an open-source, online reputation system for Wikipedia authors and content”.
- Actively involved in implementation of the algorithms in Python and researching theoretical improvements to the overall system.

### Tutor and Reader at UCSC

*Santa Cruz, CA*

University of California, Santa Cruz

*January 2020 - June 2021*

- Spring 2021: Reader for CSE 130 (Operating Systems)
- Spring 2020: Reader for CSE 120 (Computer Architecture)
- Winter 2020: Tutor for CSE 110A (Compilers)

## Awards and Achievements

### Patrick Mantey Undergraduate Leadership Award

*May 2020*

- ”The Patrick Mantey Undergraduate Leadership Award recognizes a Baskin School of Engineering undergraduate student who demonstrates outstanding leadership abilities and exhibits academic merit. Students, whose contributions represent the very best attributes and accomplishments in the community, are nominated by faculty (students do not apply) ... BSOE faculty nominate students for this award.”
- Nominated by Katia Obraczka for my work on the PIMAP project.

### NSF Research Experience for Undergraduates Fellowship

*June-July 2019*

- Received a REU Summer Fellowship and Stipend from the National Science Foundation for my work on the PIMAP project at UCSC under Katia Obraczka and Sam Mansfield.

## Publications and Theses

**Labelled Control Improvisation**

*University of California Santa Cruz*

**Eric Vin**

*Bachelor's Thesis*

**An IoT System for Autonomous, Continuous, Real-Time Patient Monitoring and Its Application to Pressure Injury Management**

*ICDH 2021*

Sam Mansfield, **Eric Vin**, Katia Obraczka

*Conference Paper*

**An IoT-Based System for Autonomous, Continuous, Real-Time Patient Monitoring and Its Application to Pressure Injury Management**

*DCOSS 2021*

Sam Mansfield, **Eric Vin**, Katia Obraczka

*Poster Paper*

Note: Extended in Conference Paper above

## Projects

**CI Toolkit**

https://github.com/UCSCFormalMethods/CIToolkit

- A Python 3 library containing tools to create and solve instances of the Control Improvisation problem and its extensions.

**Substitution Cipher Genetic Algorithm**

https://github.com/Westoluth/SubstitutionCipherGeneticAlg

- A program written in Python 3 that uses a genetic algorithm to break a substitution cipher.