

# Kevin Alarcón Negy

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My research interests are operating systems, virtualization, kernels, and file storage systems. I would like to join a research or applied research team working on a related project, but am open to broader systems-related topics, such as cloud computing, computer architecture, or distributed systems.

## Education

### Cornell University, Ithaca, NY

PhD Student, **Computer Science**

Advisors: Emin Gün Sirer and Adrian Sampson

August 2018–Present

### University of Central Florida, Orlando, FL

BS, **Computer Science**, *summa cum laude*

August 2018

BA, **International and Global Studies** and **Spanish** (double degrees), *summa cum laude*

May 2013

## Publications

**Kevin Alarcón Negy**, Peter Rizun, and Emin Gün Sirer. *Selfish Mining Re-Examined*. In Proceedings of Financial Cryptography and Data Security 2020 Twenty-Fourth International Conference, Kota Kinabalu, Malaysia. Feb. 2020.

Josiah Wong, Lauren Hastings, **Kevin Negy**, Avelino Gonzalez, Santiago Ontañón, and Yi-Ching Lee. *Machine Learning from Observation to Detect Abnormal Driving Behavior in Humans*. In Proceedings of Thirty-First International FLAIRS Conference, Melbourne, FL. May 2018.

Justin K. Pugh, L. B. Soros, Rafaela Frota, **Kevin Negy**, and Kenneth O. Stanley. *Major Evolutionary Transitions in the Voxelbuild Virtual Sandbox Game*. In Proceedings of ECAL 2017: The Fourteenth European Conference on Artificial Life, Lyon, France. Sep. 2017.

## Research Experiences

### Cornell University

Ithaca, NY

Project Area: Operating Systems

Fall 2019–Present

Investigating memory access patterns in modern programs. Data collection methods for memory access logs have included programming the Linux kernel to trace memory accesses of a process by writing a device driver and kernel functions, writing an x86 decoder, and, finally, using the Intel Pin instrumentation tool.

Project Area: Cryptocurrency

Fall 2018–Summer 2019

Disproved a mistaken belief about the profitability of selfish mining using the novel Intermittent Selfish Mining strategy. Used a Monte-Carlo simulation to examine the difficulty adjustment algorithms of several cryptocurrencies and showed that most were susceptible to selfish mining attacks.

### University of California, Berkeley

Berkeley, CA

Project Area: Networks | Advisor: Dr. Vern Paxson

Summer 2017

Implemented adaptive functionality in an IPv6 network scanner, which generated address ranges used to detect an additional million active addresses from the original scanner, as part of the Summer Undergraduate Program in Engineering Research at Berkeley (SUPERB).

## University of Central Florida

Orlando, FL

Project Area: Artificial Intelligence | Advisor: Dr. Avelino Gonzalez *Fall 2016–Spring 2018*  
Worked on the GenCL Traffic Simulator, with the objective of creating a driving model using observational learning to identify dangerous driving behavior.

Project Area: Neuroevolution | Advisor: Dr. Kenneth Stanley *Fall 2016–Spring 2017*  
Analyzed data and provided written observations of block structures built by creative agents evolved through neuroevolution. Analysis led to conference publication in ECAL 2017.

## Institute of Human and Machine Cognition

Ocala, FL

Project Area: Natural Language Processing | Advisor: Dr. Bonnie Dorr *Fall 2016–Spring 2017*  
Labeled ground truth data for machine learning classification between language in online forums and cyber-attack events for the CAUSE project (Cyber-attack Automated Unconventional Sensor Environment).

## Presentations

**Kevin Negy**, Austin Murdock, Frank Li, and Vern Paxson. “Exploring Adaptability in Smart Internet Scanner.”  
Presented at *SACNAS 2017* in Salt Lake City, UT. Aug. 2017.  
(Recipient of UCF’s 2018 Showcase of Undergraduate Research Excellence Award)

## Volunteer/Leadership Experiences

**Ledger Reviewer:** served as a reviewer for cryptocurrency journal.

**Cornell Visit Day Czar:** helped organize and run visitation days for admitted PhD and master’s students.

**Junior Knights Colonial High School Program:** laid the groundwork for a computer science teaching program for underserved students; taught once a week in AP Computer Science Principles course with seven students.

**UCF STEM Ambassador:** selected based on merit to represent UCF and motivate students in grades K–12 to pursue STEM education.

**UCF Junior Knights Programming Volunteer:** helped tutor high school students in Python basics.

**Comenius Programme:** accompanied a group of students from IES El Sur to visit fellow secondary school, Zespol Szkol, in Mszana Dolna, Poland, as part of European international educational project.

## Scholarships, Awards, & Honors

Sloan Scholar, Alfred P. Sloan Foundation’s Minority Ph.D (MPHD) Program	2018
Ford Fellowship Honorable Mention	2018
National Action Council for Minorities in Engineering (NACME) Scholar	2017
Ronald E. McNair Scholar	2016

## Additional Information

### Programming Languages:

- Python
- C
- Java
- C++

### Tools:

- Vim
- Linux CLI
- Git
- LaTeX