

A. Feder Cooper

Cornell University
Computing and Information Science
120 Bill and Melinda Gates Hall
107 Hoy Rd, Ithaca, NY 14853
Email: afc78@cornell.edu Website: <https://CacioEPe.Pe>

Education

Cornell University

Ph.D., Computer Science 2018 – 2023 (Expected)

Columbia University

B.A., Computer Science and Archaeology, *summa cum laude* 2014

Research Interests

Distributed Systems, Machine Learning, and Law

Talks

- **Imperfection is the Norm: A Computer Systems Perspective on IoT and Enforcement**, (Im)Perfect Enforcement Conference, Information Society Project at Yale Law School, April 2019

Professional Experience

Cogitai, Inc.

Remote (New York, NY) June 2017 – July 2018

Early-stage reinforcement and continual learning startup founded by leading AI researchers

Platform Software Engineer

- On a team of two, designed, built, and deployed a distributed, general purpose machine learning platform
- Managed deployment infrastructure, including containerized microservices deployed and scaled using Kubernetes on AWS
- Individually developed strategies for deploying with zero-downtime rolling database updates
- With engineering VP, designed versatile plugin architecture to support various domains, including Internet of Things (IoT) & robotics applications
- Designed and implemented external REST API and internal RPCs to enable this architecture

Betterment

New York, NY

July 2015 – May 2017

Late-stage startup; largest independent automated, "robo" investing advisor

Senior Software Engineer

- Implemented algorithm to support tickers paying out non-dividend distributions; integrated it with existing tax lot algorithms, seamlessly incorporated new tax data in customer-facing documents on retail website and in external party tax preparation software
- Built service for withholding portions of transactions for taxes, enabling launch of entire 401k line of business by supporting early distributions
- Developed emergency brake that detects potential stock market flash crashes and halts all trading
- With no prior experience ramped up on the Android mobile platform within 6 weeks; became technical lead of Android team
- Individually built automated instrumentation tests and HTTP mocking framework for Android app from scratch

Amazon

Seattle, WA

September 2014 – July 2015

Software Development Engineer, Global Retail Catalog Systems

- Collaborated on new system for automating organization of related catalog items to improve customer experience; independently developed catalog data analysis tools, mined Amazon France shoes data for run configurations that maximized success
- Partnered with another engineer to develop new fail-fast service to reject poor data quality items from entering catalog; individually innovated process to compress existing validation rule data from several separate systems, resulting in 84% reduction of data without information loss in new unified service

Awards and Honors

Cornell University Fellowship

2018 – 2019

- Full year of funding awarded by Cornell University to outstanding incoming graduate students

Summa Cum Laude

2014

- Highest honors, awarded by Columbia University to top 5% of Columbia College Class of 2014

Phi Beta Kappa 2014

2014

- Elected by Columbia University faculty to Phi Beta Kappa honor society, representing top 10% of Class of 2014

Russell C. Mills Award in Computer Science

2014

- Chosen by Columbia University Computer Science faculty for outstanding achievement in undergraduate studies

Van Amson Service Fellowship

2012

- Highly selective fellowship awarded by Columbia University to fund community service summer internship

August 2019

- German Book Award 2012
- Selected by Columbia University Department of Germanic Studies for excellence in German language scholarship
- Joshua A. Feigenbaum Prize in Literature Humanities 2011
- Awarded to 2 of 1,300 students for excellence in writing and engagement in Literature Humanities, year-long core curriculum course
- Science Research Fellowship 2010 – 2014
- Awarded to 10 students in incoming Columbia class to fund summer science research

Teaching

- Software Engineering Cornell University, Spring 2019
Project TA
- Advised Masters-level students on techniques used in industry for successful iterative soft
 - Provided feedback on proware development
- Advanced Machine Learning Systems Cornell University, Fall 2018
Grading TA
- Provided feedback on literature reviews and projects for PhD-level course on systems aspects of ML, including novel hardware architectures to distributed ML frameworks to algorithm design

Service and Outreach

- Black in AI (BAI)**
 Remote (Ithaca, NY) 2018 – present
 Community for facilitating collaboration and increasing representation of Black people in AI
- Graduate Student Ally Volunteer*
- Serve as ally and mentor to Black students applying to graduate programs in AI and machine learning
 - Provide feedback on graduate school application statements
- Cornell, Maryland, Max Planck Summer School (CMMRS)**
 Saarbrücken, Germany August 2019
 Summer school for high-achieving students interested in learning about doing a Ph.D.
- Graduate Student Volunteer*
- Engaged with and advised students about the process of applying to Ph.D. programs and the first-year graduate student experience
 - Presented my current research in a poster session
 - Served on a panel focused on the differences between pursuing research and a career in industry
- Out for Undergraduate Technology Conference (O4U Tech)**
 San Francisco, CA | Seattle, WA | New York, NY 2012 – 2015
 Technology conference for high-achieving LGBTQ undergraduate students
- Admissions Director, Student Mentor*
- Led efforts to grow and diversify applicant pool for 2015 conference at Twitter HQ; successfully increased gender and minority representation by 28%

August 2019

Skills

Technical: Java, C++, Go, Python, Julia, Ruby on Rails, R, Perl, C, C#, SQL, Postgres, Spring, Hibernate, Android, AWS, Docker, Kubernetes, CircleCI, Travis

Languages: English (native), Spanish (intermediate), German (basic), Italian (basic), French (novice), Norwegian (novice)