

# Evan Bubniak

[evanbubniak.github.io](https://evanbubniak.github.io) | [linkedin.com/in/evan-bubniak](https://linkedin.com/in/evan-bubniak) | [github.com/evanbubniak](https://github.com/evanbubniak)

## EDUCATION

### B.Eng in Mechanical Engineering, Computer Science Minor

New York, NY

*The Cooper Union* GPA: 3.4; Half-Tuition Scholarship

May 2021

## EXPERIENCE

### Engineering Co-op

June 2019 - September 2021

*Consolidated Edison Distribution Engineering*

*New York, NY*

- Automated email scraping, web scraping, database maintenance, and spreadsheet maintenance using SQL, VBA, and Python's pywin32, numpy, pandas, and Selenium libraries
- Maintained, refactored, and extended an in-house program for classifying network transformers in Con Edison's city-wide power grid and proactively preventing in-service failures
- Tripled execution speed of network scans and analysis by implementing multiprocessing, partially caching expensive SQL queries, and using the Numba JIT compiler
- Wrote utility libraries for the team, simplifying common database queries and reducing unnecessary code duplication

### Supervisor

Fall 2018 - March 2020

*The Cooper Union Computer Center*

*New York, NY*

- Provide technical troubleshooting, diagnostics, and imaging for computers, printers, and plotters
- Use ticketing portal to manage requests by students and faculty for resources and technical aid
- Provide mentoring to students in ANSYS, SolidWorks, and Adobe Creative Suite

## PROJECTS

### Predicting Head-Related Transfer Functions | *Tensorflow, Keras, Signal Processing* Fall 2020 - Spring 2021

- Developed an end-to-end experimental procedure for measuring and approximating a user's head-related transfer function, which can be used to simulate surround-sound audio with binaural headphones. Implemented the signal processing steps to transform audio data from in-ear microphones and trained a deep-learning model in Keras using research datasets to estimate a person's full hearing profile from a few data points

### Coopmo | *Java, Spring Framework, Postgres, React, Redux*

Spring 2020

- Built a Venmo clone interface for ECE-369: Software Engineering, with a MySQL database and Java Spring backend, JPA authentication, and a React frontend. Allows users to create accounts, add each other as friends, create public and private transactions, and view these transactions in a feed.

### ECE-471: Selected Topics in Machine Learning | *Python, Keras*

Fall 2019

- Implemented the AlexNet, Wide Residual Network, and InceptionV3 neural network architectures in Keras and modeled their performance on variants of the CIFAR-10 dataset subject to various data corruption schemes, replicating and validating research by Google Brain. Implemented multi-layer perceptrons and used Gaussian basis functions to implement linear regression in TensorFlow

### Wikinews RSS Feed/Web Reader | *PHP, Heroku, Docker*

March 2022

- Read Wikinews in a variety of languages via an RSS feed reader or in simple plaintext on the web, constructed from MediaWiki API queries.

### Side Projects | *Python, Selenium, Node, HTML, Chrome, Javascript*

2021

- Anki Cleaner: Wrote an Anki add-on in Python to automatically maintain standardized card formatting, so cards would remain readable in light and dark mode, while ensuring code blocks were correctly formatted
- Flights Scraper: Wrote a Google Flights scraper in Selenium to aggregate flights based on origin city, destination, cost, flight time, and airline to choose common travel destinations for people from different cities.
- Auto-Lingo: Chrome extension to auto-advance through Duolingo lessons as the user finishes exercises and automatically open the next one

## TECHNICAL SKILLS

**Technologies:** Unix, PowerShell, L<sup>A</sup>T<sub>E</sub>X, Markdown, Git, HTML, CSS, SQL, C, C++, Python (including numpy, pandas, and Flask), JavaScript (including React and React Native), VBA, Ruby on Rails

**Languages:** English (native), French, German, Mandarin