Evan Bubniak

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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

Auto-Lingo | *Chrome, HTML, JavaScript* February 2022
- Chrome extension to auto-advance through Duolingo lessons as the user finishes exercises and automatically open the next one

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, Javascript* 2021
- 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. 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.

TECHNICAL SKILLS

Technologies: Unix, PowerShell, LaTeX, 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