Logan Cooper

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SKILLS

- **Languages**: Python, SQL, JavaScript
- **Frameworks**: Pandas, scikit-learn, numpy, scipy, spacy, Flask, BeautifulSoup, D3.js, Node, Puppeteer.js
- **Tools**: Git, PostgreSQL, MongoDB

EXPERIENCE

- **Duke University** — Durham, NC
  Research Analyst — *Feb 2022 – May 2022, Sep 2022 – Present*
  - Automated the scraping and cleaning of several million broadcast news transcripts with BS4 and Puppeteer to create a dataset for NLP-based research by professors Pat Bayer and Jonathan Moreno-Medina.
  - Experimented with BERT-based keyword extraction, event extraction, and sentiment analysis algorithms on 80GB of unstructured text data to capture relevant research data.

- **Pearson** — Durham, NC
  Data Scientist Intern — *May 2022 - August 2022*
  - Developed Python data pipelines to download, clean, and transcribe ~11.5 million text, audio, and video documents from internal APIs and store them in Google BigQuery.
  - Prototyped a rank-based recommendation system to match learner queries to paragraphs and video from 1,200 e-textbooks using Pandas, FastText, Gensim, BM25, and Flask,

- **Federal Reserve Bank of San Francisco** — San Francisco, CA
  Software Developer — *Jul 2020 - Jul 2021*
  - Created Java ETL tool to transform CSV bank data from the New York Fed into a format our data platform could ingest. Resulted in access time for this data dropping from hours to minutes.

- **Forio** — San Francisco, CA
  Software Developer — *Jan 2018 - Jun 2020*
  - Built React/Redux frontends for 9 educational simulations collectively worth over $990,000 in revenue, including data visualizations and grade dashboards.
  - Saved 8-16 hours of developer time per project while improving adherence to internal coding standards by creating a Node CLI tool to auto-generate project and component boilerplate.

EDUCATION

- **Duke University** — Durham, NC
  M.S. Economics and Computer Science — *August 2021 - May 2023 (Expected)*
  Selected Coursework: Urban Economics, Machine Learning, Natural Language Processing, Databases, Topics in Data Science

- **U.C. Santa Cruz** — Santa Cruz, CA
  B.A. Global Economics (cum laude) — *September 2012 - December 2016*

PROJECTS

- **PollyDarton – NLP-driven Data Curation for Polymer Nanocomposite Data Resources**: Group project. NLP-based classification of sentences in published materials science papers. Improved F1 score over current models by 0.05 points. Tech: Python, PyTorch, scikit-learn, NLTK, Gensim, RoBERTa

- **Obesity and Corruption in the Former USSR**: Working research paper which corrects for omitted variables in a 2021 paper which uses machine learning estimates of politicians' BMIs as a proxy variable for corruption. Finds that upon correcting for omitted variables, the results are still significant and more than 90% as strong. Tech: Python, pandas, Statsmodels

- **Crypto Currency Arbitrage DB**: Group project. Arbitrage tool using Python data scrapers scheduled hourly feeding data from multiple crypto exchanges to a PostgreSQL database and visualizing it with React. Tech: Python, Flask, PostgreSQL, React

- **The Vocabulary of Buck 65, Quantified**: Blog post with analysis of rapper Buck 65's vocabulary inspired by Matt Daniels' Raper Vocab Chart. Finds that Buck 65 should the the third highest vocabulary in hip-hop. Tech: Python, Pandas.

- **Linear Regression API**: API which can perform and visualize simple OLS linear regressions. Tech: Python, Flask, JavaScript, D3.js, AWS Lambda