Matthew Dong

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EXPERIENCE

Target Corporation Minneapolis, MN
Software Engineer (Back-End) *Nov 2021 - Present*
- Built several new API features across the stores & supply chain space including: push block (enables managers to set which stores can receive inventory pushes), bulky attribute (new item attribute determining whether an item is eligible for automation processes at distribution centers), truckload optimization (CRUD application for transforming and publishing data used to optimize trailer loading). All features included persisting data to postgres and Kafka, necessary alerting & metrics, as well as auditing and test coverage (unit, functional, integration). Collaborated with product owners, outlined acceptance criteria, executed design, implemented code feedback.
- In both legacy and modern applications - addressed tech debt (handled several API migrations, major dependency updates, and resolved security vulnerabilities) and implemented best software practices (updated CI / CD pipelines, contributed core library updates, improved auditing, rewrote code as necessary).
- On call responsibilities - resolved bugs and educated users, triaged several incidents generating work stoppages.

EcoDataLab Berkeley, CA
Software Engineering Intern (Full-Stack) *Aug 2020 - July 2021*
- Led student developer team working on carbon footprint tool *(coolclimate.org/calculator)* used by both general public and businesses to achieve carbon neutral goals. Worked as partial scrum master, organized sprints and communicated goals and progress with stakeholders.
- Improved service logic to increase API response accuracy *(api-central.berkeley.edu/api/11)*, helped containerize back-end with Docker to automate research database refresh process, implemented UI features with React/Redux.
- Managed deployments through GCP Web Hosting and in-house server.

Computational Approaches to Human Learning (CAHL) Lab Berkeley, CA
Part-time Software Developer & Machine Learning Research Assistant *May 2018 - Aug 2020*
- Collaborated on both research and development teams to build a course recommender system for UC Berkeley, monthly traffic to site included 10% of undergraduate population of 30,000 students *(askoski.berkeley.edu)*. Helped pilot expansion of system to other university partners.
- Built automated data pipeline using Apache Airflow integrating multiple campus APIs and registrar enrollment data dumps to retrain neural net models and refresh MySQL data tables.
- Engineered full stack features using Angular/Flask (including search feature) and helped refactor codebase to follow OOP practices and modern architecture patterns.
- Published research paper demonstrating use of ML models in ed-tech course search tools in practice (Proceedings).

SKILLS

- **Languages**: Python, Java, Kotlin, Bash, SQL, Javascript, HTML/CSS, Go
- **Software Tools**: Git, Spring Boot, Ktor, Flask, Postgres, MySQL, Docker, Airflow, Drone, TravisCI, Amazon Web Services, Google Cloud Platform, Postman, Kibana, Grafana, Kafka, DevTools, IntelliJ, Visual Studio Code, Angular 7+, React/Redux
- **Data Science Tools**: PyData Stack (Pandas, NumPy/SciPy, SciKit-Learn, NLTK, TensorFlow/PyTorch), R
- **Domains**: Full-Stack Web Development, DevOps, Data Science, Machine Learning

PROJECTS

- **CA County Waste**: Waste management project predicting waste generation for CA counties based on historic data and other engineered features. Wrote scripts to scrape data from government websites, trained and evaluated different prediction models, created a geospatial heat map with optimal model. *(Sklearn, Selenium, Leaflet, Geopandas, Folium)*
- **E-waste Education**: Static website describing national and regional electronic waste usage and policies with statistical visualizations. *(React, Gatsby, GCP, Plotly)*

EDUCATION

University of California, Berkeley Berkeley, CA
B.A. Data Science - Environment and Resource Management emphasis (GPA: 3.93/4) *Grad: Spring '21*

Updated: 10/25/2022