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Recent Experience

Zendesk

PHILADELPHIA, PA (REMOTE)

Senior Data Engineer

Feb '23 – Present

Recently I was promoted to Senior Data Engineer to reflect the ownership and autonomy I have over my projects. My project portfolio includes the same work I was doing as a Data Engineer. To give an example of a recent project, here is something I'm actively working on: a new python ETL pipeline from our data lake / data warehouse to dataset schema registry / data catalog.

- The ETL pipeline will query AWS S3 for the input and output datasets for our data lake. The data lake is structured as a CDC so the most recent folders are checked for updates.
- The ETL runs as a cron job alongside other schema registry ingestion pipelines. The cron job is managed by kubernetes and our internal CICD.
- The dataset schema metadata is loaded into a third party database, who manage the database and UI of our data catalog. The app is used for dataset discoverability and to assist with data governance.

Data Engineer

Aug '21 – Jan '23

As part of the foundational engineering department, we are tasked with building common infrastructure for the product engineering teams. My project portfolio included:

- Technical owner of a java microservice that ingests about 50 million kafka messages per day. The main role of the service is to re-index and archive streamed product data.
- Adding/maintaining data connections for our dataset schema registry in python
- AWS EC2 maintenance operations for a data aggregation service (now deprecated)
- Team security champion for owning vulnerability SLAs and security operations.

One benefit that I enjoy at this role is volunteering with Hack Your Future, where I help teach refugees how to code.

Bloomberg LP

PRINCETON, NJ & PHILADELPHIA, PA (REMOTE)

Acquisition Tech Lead

Dec '19 – Aug '21

As one of the initial members of this team, I gained ownership of implementing the team's technical projects. Our team is responsible for maintaining hundreds of thousands of web crawlers and increasing our coverage with new crawlers. I build platforms to add transparency and improve reporting for Bloomberg's acquisition processes. My project portfolio includes:

- A validation workflow with over 70 logic checks to ensure web crawlers are configured properly
- A full stack website to parse web crawler configurations for easier reporting
- A metadata triple store to link various acquisition databases together

I also manage our co-op program, which is an important part of our hiring pipeline. I'm responsible for organizing our co-op hiring, on-boarding, and events. We have 4 co-ops that rotate biannually, across 4 different teams within the department.

Data Engineer

Jun '19 – Dec '19

In this role I contributed to several projects, managed our team's web crawler queue and oversaw our team's co-op. I worked on various microservices and a script to migrate and consolidate data from 3 legacy databases. I lead a project with three co-ops during this period to migrate the manual Jira access queue into our internal permission system.

Data Engineer Co-Op

Apr '18 – Sept '18

As the only co-op at the firm during this period, I was able to gain expertise in each tech stack component. My contributions during this period include web crawler configurations, microservice development, Jira workflow configuration, and productivity data EDA. I enjoyed hosting office activities like chess tournaments and weekly trivia.

Intern Experience

Booksmart Touring: Backend Engineer

July '16 – Sept '17

- Webserver Development: Python backend for a web and mobile application used by tour owners and musicians
- Specification Writing: Designed new feature implementations, considering scalability and maintainability. Working with management and user interface teams to meet requirements.

- **Data Management:** Migrating data safely to new models, preserving data integrity and backwards compatibility whenever possible.

Chess.com: Software Developer Intern

March '17 – May '17

- **Full Stack Feature Development:** Developed and integrated a new feature for a website with millions of users.
- **Testing:** Found a production bug and developed a fix in python.

Drexel Hyperloop: Control Systems Software Engineer

July '16 – Oct '16

- **Sensor Data Logging:** Implemented a database for live data streaming. Data sources from various engineering systems were monitored for irregularities and performance.
- **Requirements Coordination:** Determined software needs of multiple teams, totaling over one hundred personnel.

Thomson Reuters, IP & Science: Data Analyst

March '16 – Sept '16

- **Big Data:** Queried a Hadoop cluster to extract bibliometric data for customers. Optimized queries to deliver results timely and inexpensively.
- **Data Cleaning:** Parsed files into a desired format. Added custom analytic fields.
- **Web Scraping:** Started data population for new features and data models.

Armada International Advisors: Full Stack App Developer

Oct '14 – Oct '15

- **IoT Project Development:** Independently developed a medical equipment tracking application using Texas Instruments' sensors.
- **Web and Mobile App Development:** Developed and maintained multiple web and mobile apps.
- **Web Scraping for Sales Leads:** Collected contact information from potential clients using web crawlers and social media scraping.

Education

Drexel University

PHILADELPHIA, PA

Bachelor of Science in Computer Science

Sep '15 – Jun '19

Focused on computational mathematics and artificial intelligence / machine learning. During this time I was employed at startups, participated in hackathons, and held membership in industry specific clubs. I've curated a diverse portfolio of programming projects including IoT, full stack mobile and web apps (*hybrid and native*), data analysis, graphics, and web crawlers.

Skills

Leadership: Establishing relationships with engineering groups, business stakeholders, and peers. Solid communication and presentation skillset. Intern management and hiring experience. Skilled in vendor management and productivity data analysis.

Technical: Software design, workflow design, and data pipeline design. I work regularly with Python, Javascript, and Lua. Solid knowledge of web technologies and best practices relating to web crawling. Recent web development experience with React-Redux, Flask, SQL Alchemy, and PostgreSQL. CI experience with Docker and Docker-Compose. Data analysis experience in Python using Jupyter, Pandas, and Matplotlib.

Mathematics: Applied optimization theory to solve industrial design problems. Studied abstract algebra, analysis, statistics, and nonlinear algebra (*among other topics*).

Technology

Rubric (from worst to best): Novice, Advanced Beginner, Competent, Proficient, Expert

Languages: Python (Proficient), Javascript (Proficient), Java (Competent), C# (Novice), Lua (Novice), C++ (Novice), Go (Novice), VB (Novice), Objective-C (Novice), Haskell (Novice), Prolog (Novice)

DevOps: Kubernetes (Advanced Beginner), Docker (Competent), AWS (Competent), Google Cloud (Competent)

Backend Frameworks: VertX (Competent), Flask (Proficient), FastAPI (Proficient), Django (Proficient), Express (Proficient), Spring (Advanced Beginner), ASP.NET (Advanced Beginner)

Frontend Frameworks: React (Competent), Redux (Novice), Vue.js (Advanced Beginner), Android Native (Novice), Bootstrap (Novice)

Databases: Apache Kafka (Proficient), MongoDB (Competent), MS SQL (Competent), MySQL (Competent), PostgreSQL (Competent), HiveQL (Advanced Beginner), Solr (Advanced Beginner), RDF Triplestore / SPARQL (Advanced Beginner)
