

Tal Zaken

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PROFESSIONAL EXPERIENCE

Pearl Health

Software Engineer II - Full Stack

June 2023 - Present

- Optimized high-traffic APIs in Python/Django to reduce response times by up to 40%, ensuring scalability to accommodate a 10x year-over-year increase in data volume over-the-wire.
- Collaborated on technical requirements specification and development efforts for the launch of a new product homepage, supporting a 3x year-over-year growth in user base and 2x increase in year-over-year customer retention.
- Scoped and built a fully customized interactive Sankey data visualization for enterprise clients, using React/Next.js with TypeScript and D3.js, supporting growth into new lines of business.
- Lead technical specification and development efforts for a new product feature to increase accurate coding of patient chronic conditions, resulting in a 8% increase of the chronic code re-capture rate.

Software Engineer I - Full Stack

April 2022 - June 2023

- Enhanced a Python/Django application with asynchronous operations using Celery, improving API responsiveness by 30% and adding support for long-running operations.
- Utilized Terraform to provision and manage infrastructure in support of application scaling for an expected 10x increase in application load.
- Designed and implemented a near-real-time patient health risk monitoring/alerting system, increasing the percentage of healthcare providers meeting care delivery targets by 16%, and enhancing patient outcomes.
- Developed RESTful APIs in Django and built intuitive frontend interfaces using React and Next.js.

NYC Dept. of Sanitation

Recycling Bureau Data Lead

December 2019 - January 2022

- Developed tools for internal customer service teams that cut response times by 50% for 2000+ daily complaints, using NLP pipelines built with a Python/NLTK/Jupyter stack.
- Utilized geographic clustering algorithms to calculate optimal routes for a fleet of service vehicles, reducing driving mileage by 17%.
- Led complex, inter-agency projects including the launch of [NYC's Smart Composting Bin program](#) and publication of [New York City's annual rates of recycling](#).
- Managed all Recycling Bureau data operations, including collection, storage, visualization, and development of automated data pipelines for high-level consumers including NYC Mayor's Office and NYC City Council.

Recycling Program Manager

October 2015 - December 2019

- Oversaw Zero Waste Program agreements valued at \$12,500,000 and covering 60+ workers. Used MS SQL Server to build databases for budgets, payments, and program metrics.
- Wrote and tested queries against budget, payments, and metrics databases, and developed monthly KPI reports.
- Built NYC Sanitation's apartment building composting program, also serving nonprofits, institutions, and city agencies. Grew program enrollment from 2000 to 200,000+ households utilizing data-informed approaches.

EDUCATION

Brandeis University

August 2007 - May 2011

- BA in English Literature, with Honors
- Allen Grossman Prize for Best Undergraduate Thesis

Recurse Center

December 2021 - February 2022

- Participant, Independent Software Engineering Retreat

SKILLS + TOOLS

- **Cloud/Serverless Architecture:** AWS Products and GCP
- **Infrastructure Management:** Terraform and AWS CloudFormation
- **CI/CD:** CircleCI, GitHub Actions
- **Monitoring + Observability:** Datadog, Sentry
- **Programming Languages:** Python, JavaScript/TypeScript, Rust, SQL
- **Web Frameworks:** Django, Flask; React, Next.js
- **Version Control:** Git, GitHub, GitLab