KENT GANG

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WORK EXPERIENCE

Alkymi – Series A Startup

Senior Backend Engineer/3rd Engineer — December 2021 – Present

Alkymi automates data extraction from documents using machine learning and provides self-service low-code customization tools.

- Architected a new distributed websockets framework with Kafka and async FastAPI for eliminating polling REST API calls by the frontend and increasing reactivity and speed of our UI.
- Designed and led development for a low-code postprocessing framework for manipulating ML-extracted data to align outputs with customer expectations.
- Proposed and independently executed SaaS features such as reporting tools, batch export utilities, and version control framework enhancements.
- Mentored 3 other backend engineers and supported their projects.

Full Stack Engineer — March 2020 – December 2021

- Developed an internal datatypes framework with meta-classes for validation and export.
- Joined right after seed stage as the seventh member, and saw the company's growth to forty.

Quantitative Brokers

Software Engineer, Data Infrastructure and Analytics — Sep 2019 – March 2020

Quantitative Brokers was founded by mathematician Robert Almgren, and offers algorithmic execution of commodities futures and cash treasury orders.

- Created a reporting framework backend RESTful API web service and PostgreSQL database for client algo performance with Python, PyQ, and Django.
- Restructured Kdb+/Q databases reducing write and query times from 5 minutes to seconds.
- Reduced Transaction Cost Analysis (TCA) SQL and plotting time by half for client deliverables.

Fannie Mae

Financial Economist I – Capital Markets Analytics — June 2018 – April 2019

- Led the development of an automated Python application, CRTpy, for structured financial product modeling, duplicating INTEX functionality (cost of $10k/person/month).
- Forecasted Mortgage-Backed Securities (MBS) futures prices for an automated pricing engine with machine learning, Kalman filters, and linear states.
- Developed a decision tree for the comparative evaluation of mortgage servicers and other models such as a logistic regression for analyzing the likelihood of mortgage defaults.

Financial Engineer I – Capital Markets Analytics — June 2017 – June 2018

- Assessed quarterly returns on capital (ROC) for executive management.
- Modeled Credit Risk Transfer (CRT) transactions in Python with Pandas and NumPy.

EDUCATION

University of Illinois at Urbana-Champaign

B.S. Engineering Physics with Honors

Concentration in Computational Physics, Mathematics Minor

TECHNOLOGIES + SKILLS

Python | Django | AsyncIO | Pandas | NumPy | JupyterLab | SQL | Postgres | Kafka

Systems Design | Distributed Computing | First Principles Thinking | Indie Roguelikes