Phillip Dupuis

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ABOUT

I am an engineer with over 10 years of professional experience in full-stack development, distributed computing, and AI/LLM integrations. I have a strong background in building scalable applications for healthcare, quantitative finance, and data analytics, with expertise in Python, Node/TypeScript, React, and cloud infrastructure technologies.

SKILLS

Python | Django | FastAPI | Dask | Pandas | Task Graphs | Distributed Computing | C and Rust extensions

TypeScript | Node | React | Next | Astro | Vite | Playwright | OAuth | Web Workers | Data Visualization

Docker | Kubernetes | Jenkins | GitHub Actions | Azure | AWS | Kibana | Grafana

PostgreSQL | Redis | MongoDB | Amazon S3 | Elasticsearch

Agentic Workflows | Function/Tool Calling | Custom Integrations | Vector Databases | RAG

EXPERIENCE

Senior Software Engineer 01/2020 to present
Man Numeric Boston, MA

- Created a comprehensive portfolio analytics platform over the course of four years, replacing multiple legacy systems and reducing developer maintenance costs from full-time to just 4-8 hours per month (a 95% reduction). The platform is fully self-service and is used by hundreds of portfolio managers, quants, and salespeople on a daily basis. Utilized React, Django, PostgreSQL, Redis, Excel plugins, and Slack bots.
- Developed a high-performance REST API for running computations on Dask clusters, with custom DAG optimizations that reduce the average compute time from hours to seconds. Expanded API adoption across several applications. In addition to improving user experience, this has allowed numerous overnight jobs to be decommissioned.
- Led AI/LLM initiatives as the point person in Boston (~200 employees). Gave company-wide talks on utilizing function/tool calling effectively, mentored researchers and developers on best practices, and created a Slack bot with advanced RAG capabilities which receives thousands of queries every day.
- Published (internal) NPM packages for embedding LLMs in existing web applications and allowing them to act on behalf of the user. These packages were widely used both internally and in client demos and press interviews.

Software Developer 08/2014 to 12/2019
MEDITECH Framingham, MA

- Led development of software for Referral to Treatment Pathways (an NHS system for managing patient referrals and treatment timelines). Designed and implemented a statistical desktop that leverages Markov chains for predictive analytics.
- Created an 'emergency room wait list' product that streamlined hospital workflows and automated critical triaging processes, leading to decreased wait times and improved outcomes.
- Developed the proration algorithm, rule-building tools, statistical desktop, claims, and statements for 'package billing'.

PROJECTS

pydantic-to-typescript https://github.com/phillipdupuis/pydantic-to-typescript ☆293

A python package for automatically generating TypeScript definitions from Pydantic models.
so you can ensure that your front-end and back-end models are always in sync.
I created this while working on a large project with a team of contractors, and it seems to be broadly useful.

EDUCATION

BS in Applied Mathematics-Biology 09/2010 to 05/2014
Brown University Providence, RI
My primary interests were genomics, probability, and statistical inference.