Joseph Shoyer

Email : joeyshoyer@gmail.com
Los Angeles, CA

Experience

Accenture — Los Angeles, CA

Senior Software Engineer — *Nov 2024 - Present*

- **QA Automation Tool**: Developed enterprise-scale web accessibility compliance platform **(Angular/Node.js)** in Agile team, architecting LLM integration for automated QA analysis that reduced testing time by 20.3%.
- **Marketing Copilot**: Architected marketing platform **(Next.js/Flask)** leveraging **Vertex AI**, building APIs and interfaces to support automated brief creation and compliance-driven content generation.

Software Engineer — *August 2023 - Nov 2024*

- **Localization Pipeline**: Engineered a **Python** localization automation pipeline using fine-tuned Vertex AI models, achieving 99% time reduction and >85% validated translation quality, saving ˜$2.4M annually.
- **Parsing Optimization**: Led development of a contact data enrichment system utilizing ML-optimized Google Search parsing, achieving 90% verification accuracy and generating $900K in savings annually.
- **Clustering Analysis**: Spearheaded federal mail delivery service merchandising strategy optimization through advanced clustering algorithms **(Python)** for customer segmentation analysis, informing retail strategy.

Streets for All — Los Angeles, CA

Volunteer Data Scientist — *Jan 2024 - Present*

- **Bus Delay Analysis**: Published research report analyzing delay impact across Los Angeles' bus network, developing GIS algorithms to merge route segments and simulating ridership patterns **(GeoPandas)** to interactively identify high-impact locations for network optimization to minimize rider delay.
- **Mapping Sidewalk Accessibility**: Collaborated on computer vision research to map sidewalk accessibility in LA, contributing to data collection methodology and integrating volunteer efforts with research infrastructure.

Water Risk Analytics Startup — Ann Arbor, MI

Researcher / Software Engineer — *Oct 2022 - June 2023*

- **Water Analytics API**: Built core analytics capabilities for novel, proprietary portfolio risk analytics platform **(Django)** pricing and analyzing OPEX and CAPEX climate water risk exposure.
- **Supply Chain Climate Risk**: Implemented and designed underlying quantitative algorithms **(Python/Django)** calculating corporate-level water risk across supply chain based on facility parameters and environmental data.
- **Text-based ESG Risk Analysis**: Developed fine-tuned natural language processing models **(TensorFlow)** to analyze and price climate and water risk based on text data in corporate sustainability reports.

Boeing — Everett, WA

Data Analyst Intern — *May 2022 - August 2022*

- **Enabling Digital Twin**: Administered 50 internal interviews and analyzed software architecture to identify key challenges, risks, and opportunities facing software transition enabling Digital Twin.
- **PLM Software Best Practices**: Compiled industry best practices for Product Lifecycle Management (PLM), including leveraging out-of-the-box commercial software and federated system architecture.
- **System Architecture Analysis**: Delivered distributed architecture recommendations for Digital Twin PLM system development and transition to improve efficiency, safety, and reliability.

Education

University of Michigan — Ann Arbor, MI

BSE in Computer Science; GPA: 3.73 — *Aug. 2018 – May. 2022*

MSE in Industrial and Operations Engineering; GPA: 3.92 — *Aug. 2022 – May. 2023*

Coursework/Research: Machine Learning, Optimization, Bayesian Data Science, Distributed Systems

Skills

Programming Languages: C++, Go, C#, R, MATLAB, JavaScript/TypeScript, Python

Frameworks and Technologies: AWS/GCP, ArcGIS, MongoDB, SQL, Gurobi, Next.js, Django, Node.js

Interests: Drums, Analog Synthesizers, Ultimate Frisbee, Cooking, Hiking, Mushroom Foraging