Jonathan Wu

Engineer
Founder
Maker

Summary

Senior software engineer and founder with experience spanning embedded systems, distributed backend architecture, and AI-driven data pipelines. Strong focus on performance, reliability, and end-to-end ownership.

Contact

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Education

Bachelor of Science, Honours Computer Science
Wilfrid Laurier University
Minor, Economics

Languages & Tools

Elixir / Java / C / Python / HTML / CSS / JS / React / Tauri / Postgres / SQL

Docker / GCP / AWS / Grafana / Git / WSL / Kafka / Inkscape / Proxmox / Adobe Suite

Hobbies

- Built a homelab featured on the front page of Reddit and covered in multiple tech publications.
- Hobbyist hardware hacker—modifies arcade cabinets, and active member of a local maker space.
- Designed and assembled a 3D printer from scratch; enjoy 3D modeling as a hobby.
- Mechanical keyboard enthusiast and coffee aficionado.
- Top 1% ranked in League of Legends and Valorant.

Experience

Yume Arcade
November 2023 – Current

Founder & CTO
Java – Spring, NextJS, Postgres, Network Architecture

- Founded and led all technical development for a physical arcade business, owning software, hardware, firmware, and network infrastructure end-to-end.
- Designed custom PCB hardware and ESP32 (Arduino/C++) firmware to power a proprietary arcade credit system, purpose-built for full hardware control and deep integration with in-house software.
- Built bespoke backend services to manage credits, user actions, and device communication, ensuring consistent state across machines with zero production downtime.
- Designed and deployed an on-prem server architecture enabling fully offline operation, ensuring low-latency payments and uninterrupted arcade operation independent of internet connectivity
- Programmed, manufactured, and deployed a self-service customer kiosk integrating NFC chips, multi-card dispensers, and Square payment terminal APIs, halving the clerk headcount required and freeing staff to focus on higher-value customer interactions.
- Built a digital queue management system and customer-facing app that improved peak-hour customer flow, driving an estimated 10% increase in revenue per hour across all customers.

ShareSFR
November 2024 – Current

Senior Software Developer
Python, Langchain – OpenAI, Postgres, AWS

- Designed and implemented an AI-driven, batch document ingestion and parsing service as a solo developer, processing 3,000 unstructured legal and financial documents into normalized database models.
- Built multi-step data pipelines using OpenAI models to transform unstructured data into serialized, versioned records through document classification and entity/date extraction.
- Implemented confidence scoring and thresholding to flag uncertain AI outputs and support downstream human review workflows.
- Optimized the pipeline to run within AWS micro-instance constraints, reducing per-document processing cost by 75% while maintaining throughput and reliability
- Significantly improved human productivity by reducing manual document tagging, increasing document ingestion volume and enabling faster onboarding of new data.
- Owned service architecture, data modeling, and operational tradeoffs for a production AI system despite limited infrastructure and model performance constraints.

Loblaw Digital
November 2019 – November 2024

Software Developer
Java – Spring, Elixir – Phoenix, GCP, PostgreSQL

- Designed and developed a real-time stock visibility feature for the cart service, integrating live inventory data with data science predicted stock levels to reduce product substitutions and improve the customer shopping experience
- Refactored logging across key service components and overhauled alerting to better reflect real system state, significantly reducing false positive alerts and improving on-call reliability
- Introduced CI/CD performance testing to incentivize better code quality and more consistent performance checks.
- Reduced P95 API latency by 15% and improved performance for large carts by 25% by identifying and refactoring several key functions.
- Designed and built new components for micro services, redesigned aimed to improve performance, code quality and maintainability