Vu Dinh

Software Developer | Business Impact Through Technical Solutions

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Summary

Passionate software developer with hands-on experience designing and building full-stack applications from concept to production. Delivered a **25-30x efficiency improvement** through a payroll automation platform that reduced processing time from 1.5 hours to under 5 minutes. Eager to bring problem-solving skills and dedication to a collaborative team, and to grow as an engineer under experienced mentors at LotusFlare.

Experience

Full-Stack Developer (Self-Directed Projects)

September 2024 - Present

Project: Distributed Payroll Management Platform

- Built a production-ready automation platform from the ground up to solve complex manual payroll challenges.
- **Business Impact:** Reduced payroll processing time by **95%+ (1.5 hours to under 5 minutes)** while maintaining human oversight.
- Applied stateless architecture concepts to eliminate synchronization complexity while preserving ACID compliance for financial calculations.
- Architected three-phase workflow (resolution → review → export) to reduce cognitive load and respect user agency through eventual consistency in data validation.
- Designed single-interaction employee interface to ensure zero-friction adoption by non-technical users.

Project: Gaming Automation Framework

- Built multi-tier automation system with semantic translation layer to convert human commands into machine hardware events (USB HID).
- Engineered clean separation between business logic (Python), hardware interface, and mobile frontend (Flutter) for independent component evolution.

Deli Operations | Quality Food Center

2018 - 2024

Gained firsthand exposure to enterprise software inefficiencies (inventory, POS, payroll) in a high-pressure environment. Observing these challenges sparked my passion for building intuitive, user-centric solutions that simplify people's work.

Foundational Principles

First Principles Approach: Independently derive algorithms like Dijkstra's and Floyd's to grasp underlying mathematical properties

Pattern Internalization: Focus on understanding core concepts rather than memorizing specific solutions

Analytical Depth: Build strong problem-solving foundations through rigorous conceptual practice

Technical Competencies

Mobile: Flutter/Dart, Riverpod

Backend: Python, FastAPI, SQLAlchemy

Infrastructure: Raspberry Pi, VPN, USB HID

System Design: Distributed Systems, REST APIs

Education & Development

Accelerated Self-Directed Development

October 2024 - Present

Engaged in intensive, focused skill development and system design, driven by a genuine excitement for building practical, cross-platform applications with modern tools.

University of Washington

2012 - 2016

Coursework in Computer Science and Software Engineering (CSSE), including algorithms, data structures, and software engineering principles.