

# 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.

## Independent Work | UberEats

2024 - 2025

Utilized ~70 hours/week time away from computer effectively to train cognitive and analytical abilities through mental problem-solving sessions.

## 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.