Danny Huynh

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LinkedIn · GitHub · Portfolio

EDUCATION

Computer Engineering B.S.
University of Houston
Cum Laude

SKILLS

C#/.NET Core/ASP.NET	Tailwind/CSS/SCSS/HTML	Python 2/3
Go/Gin	Azure/AWS	Three.js
React/React Native/Next.js	Java/Kotlin	Git
JavaScript/TypeScript/Express	SQL/NoSQL	FreeRTOS

CERTIFICATES

AZ-900 (Azure Fundamentals)

PROFESSIONAL EXPERIENCE

Pacific Northwest National Laboratory **Oct 2023 - Jan 2025**
Full-Stack Engineer

- Built and upgraded features, documentation. and CI/CD for internal based IT and security applications supporting lab-wide digital operations.
- Overhauled .NET framework and dependency upgrades of several legacy apps to ensure smooth transition and operations.
- Investigated security vulnerabilities for various internal applications, developing up-to-date standards through validation, authentication, and refactoring legacy code.
- Scoped out user stories and requirements through direct communication with stakeholders and team discussions.
- Revamped UI/UX designs and client-side logic for internal apps through client feedback and team discussions.
- Created quality of life automation shell scripts for Azure Dev Ops to efficiently manage repos, pull requests, and pipeline infrastructure.
- Advocated for implementing Agentic AI to automate documentation creation, pull request pre-review, and pipeline management for all related repos in Azure Dev Ops.

AspenTech **June 2023 - October 2023**
Software Engineer

- Managed legacy GWT codebase of prominent software product, A1PE, to sustain to client requirements and clear defects.
- Overhauled and redesigned legacy GWT client-side logic to move towards React, set up standards for consistent documentation, and clean up codebase to follow up-to-date programming and security conventions.
- Collaborated with team to determine user stories and create respective backlogs for product sustainability and modernization.

Teal **December 2022 - March 2023**
Embedded Systems Engineer

- Developed script from the ground up to control and operate new generation of chiller management systems. Program drives chiller and related hardware controls as well as energy optimization. New generation of systems demoed at new HQ and implemented across hundreds of client sites across the US.
- Designed software architecture and development patterns to simplify and optimize future implementations of chiller management systems for future client sites.
- Configured boot files, bash scripts, and python dependencies to set up firmware build on Raspbian lite for multiple raspberry pi models set up on embedded automated controls system.
- Organized and built unit tests for chiller management script using PyUnit.
- Managed python dependencies to ensure scripts for chiller management systems would operate on python 2 and python 3.

Avanade **December 2020 - December 2022**
Multiple Roles
IoT Engineer – Sustainability Initiative

- Led the design, component sourcing, development, and implementation of an IoT system to collect soil quality data, transmitting it to Azure IoT Central.
- Prototyped IoT Edge Modules on ESP32 to generate urgent conditions with appropriate responses based on sensor data, such as automating irrigation when humidity and temperature thresholds are met.
- Developed Azure IoT Central dashboards for data visualization using Power BI and set up Azure Blob Storage for data analytics pipelines.
- Coordinated a proof-of-concept demo, including a physical prototype programmed in C/C++ on an ESP32 running FreeRTOS, simulated data analysis via Power BI, and a functional Power Apps application for user insights.
- Presented the demo to Avanade and Microsoft executives as a potential deliverable for Microsoft FarmBeats and non-profit sustainability clients in Europe; showcased at the Microsoft Innovation Center.

IoT/Full-Stack Developer – North America IoT Initiative

- Demonstrated an electric longboard connected to Azure IoT Hub at an Avanade IoT workshop with over 90 attendees, showcasing remote control capabilities and real-time vehicle health monitoring using IoT Edge.
- Assisted in leading the Avanade North America IoT Initiative, organizing company-wide demo workshops to promote IoT and hardware-based solutions to clients.
- Planned and executed IoT and embedded projects outside of client work hours to develop workshops and client demos, utilizing technologies such as Azure IoT, AWS IoT, C, C++, Node.js, Angular, React Native, Embedded Java, and Python on hardware platforms like ESP32, Arduino, Raspberry Pi, Beagleboard, and STM32, with both RTOS and non-RTOS environments.

Full Stack Developer – Government Motor Department Client

- Engaged in Agile development for a single-page application built with Durandal to modernize state-wide DMV motorist applications.
- Independently managed development tasks, including task selection and time management in Azure TFS, presenting demos, coordinating build/deployments, aligning with team on business requirements, and proposing solutions adhering to SOLID design principles and modern programming paradigms.
- Developed web pages across the stack: created Oracle stored procedures, accessed via DAOs built in C# and Entity Framework; implemented business services and data validation scripts; developed controller services in C#; built client-side services in TypeScript/JavaScript to call .NET APIs; constructed UIs with Durandal, TypeScript, and bootstrap per wireframe designs.
- Created unit tests for business services and data validation using .NET's C# unit testing framework.
- Presented design approaches during sprint planning to enhance user stories per business requirements and reduce technical debt.
- Contributed to an application utilized state-wide by millions of DMV employees and customers.

Full Stack Developer – Government Healthcare Client

- Scoped user stories and sprint backlogs with the team to assess development tasks and client accessibility requirements.
- Developed accessibility features for text-to-speech, font size adjustments, keyboard navigation, and error notifications using jQuery, JavaScript, HTML, and CSS.
- Implemented and revised scripts for jQuery, Bootstrap, and Razor libraries, along with C# Web APIs, to meet accessibility standards.
- Managed and deployed accessibility changes through Azure TFS.
- Oversaw production support tasks to ensure seamless data pipelines and application performance via AWS CodePipeline and AWS CodeDeploy, maintaining uptime for AI-assisted web applications and verifying accurate end-user data submissions.
- Developed data processing scripts to streamline service reports and organize production data pipeline issues using Anaconda and Pandas.
- Enhanced issue resolution times by automating ArangoDB queries and data processing scripts through Jupyter notebooks and PowerShell.

Avanade **June 2020 - August 2020**
Software Engineer Intern

- Mapped assets within various hospital sectors using machine learning models to find potential insights for user traffic, financial trends, and patient scheduling.
- Evaluated hospital system's enterprise SQL Server database and plotted Power BI graphs to illustrate data insights on a visual dashboard.
- Analyzed database for insightful data points to build regression models and K means clustering using TensorFlow.
- Scripted and implemented Web API script to query enterprise database, acting as service for TensorFlow models, built python 3 script to automate the process.
- Developed React Native web application utilizing Three.js for an interactive remote working platform and demoed to internal company hackathon panel.

University of Houston **June 2019 - February 2020**
Research Data Analyst

- Developed, trained, and optimized a two-part machine learning model to determine weighted emotion from any given image.
- Built Electron.js desktop application through node.js that allows research participants to classify factors (semantic objects and an emotion) in each given image; results collected as user-classified ground data.
- Developed Unit testing layer for desktop application using node.js and Jest.
- Programmed C++ data organizer algorithm to group classified images based of relevant factors.
- Developed image processing script with Inception_V4 framework to classify semantic objects and emotion in image based of ground data.

PROJECTS

Electric Longboard **June 2019 - February 2020**

- Engineered hardware and software systems to build electric longboard controlled via Bluetooth with wiimote communicating with Raspberry Pi Zero W.
- Created hardware system design and catalogued components and equipment to meet technical specifications and project timeline/budget expectations.
- Developed Python 2 script for control system modules using open source wiimote API. Modules included adjustable velocity and acceleration control, automatic bluetooth connection on startup, wiimote button mapping, a top speed limiter, LED indicators on wiimote representing control state, and a deadman's trigger.
- Forked and customized C hardware mapping scripts and Python 2 API that interfaces with hardware map to enable close-to real time control through Python 2, overcoming significant latency when controlling longboard.
- Implemented safety features: deadman's trigger for wiimote, circuit breaker to protect hardware from shorting, and balance charging for battery pack, 5V regulator for raspberry pi.