Harry Zhu

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EDUCATION

George Fox University   Graduated April 2024
Bachelor of Science in Computer Science (GPA: 3.552)   Newberg, OR

Technical Coursework: Object-Oriented Programming (C++), Algorithms (Scala), Data Structures (Java), Client-Server Systems, Parallel & Distributed Systems (C/C++), Operating Systems (C/C++), Computer Architecture & Assembly, Artificial Intelligence, Machine Learning

Cybersecurity Coursework: Ethical Hacking, Penetration Testing, Computer Networking, Secure Software

Non-technical Coursework: Human-Computer Interaction (UX), Software Engineering, Discrete Math

Awards: Computer Science Academic Department Scholarship (2019), WiseGEEK AAPI Scholarship (2020), Stevens Endowed Scholarship (2022), Pablo M. Ortiz Scholarship (2023), CS Faculty Outstanding Computer Science Student (2024)

Programming Languages: Python, Java, JavaScript, TypeScript, C#, Scala, PHP, C/C++, Bash, PowerShell

Programming Frameworks: React, NextJS, VueJS, Spring, Pandas, Numpy, Scipy, Scikit-Learn

Technical Tools: Docker, Amazon Web Services, Google Cloud Platform, PostgreSQL, MongoDB, Digital Ocean, Vercel, Postman, Linux, Apache, Ubuntu, Git, Visual Studios, IntelliJ

PROFESSIONAL EXPERIENCE

Software Engineering Volunteer — Recidiviz YC19   November 2024 – Present
- Transformed **200+** YAML schema manifests through caching metadata from BigQuery using Python automation, reducing query time from ~**2.5s** to near-instant and projecting **$30K+ annual savings** in developer productivity

Software Engineer Intern — F5 Networks   July 2024 – September 2024
- Automated debugging using REST APIs and Shell scripting in K3S-driven containers to analyze **100+** CI/CD pipelines resulting in **70%** faster crash analysis for **45+ developers** on F5's core traffic management system
- Expanded knowledge sharing by creating documentation on crash analysis procedures, supporting 30+ developers
- Accelerated crash recovery time by **10%** across teams by aggregating 5+ stack traces into bug reports per day

Software Engineer Intern — George Fox University Communications Office   August 2021 – April 2024
- Engineered 20+ **NodeJS** programs to leverage CMS workflow APIs, reducing development cycles and time by 90%
- Streamlined content review time by 95% through an API-driven **VueJS** CMS monitoring system for 4,000+ pages
- Enhanced user experience for 1,000+ daily visitors through performance and design optimization of 100+ pages

Software Engineer Intern — Liminal Insights, Inc.   June 2023 – August 2023
- Reduced configuration time by **90%** by developing **NextJS** and **Python** containerized services using Docker
- Improved battery testing reliability by architecting a message-oriented system processing **50+** debug logs/minute
- Achieved **95%** uptime for 100+ industrial control events through Redis-driven data flow by removing race conditions

Software Engineer Intern — Recidiviz YC19   June 2022 – August 2022
- Eliminated **200+** OWASP security vulnerabilities (including XSS, CSRF, and package dependency issues) through automated scanning and remediation, strengthening platform security by **98%** for state-level criminal justice data
- Built API-driven security account automation system handling **15+** annual departures using Docker and Python frameworks, driving **95%** efficiency gain in audit workflows until replacement by enterprise SOC2 solution in 2024
- Prevented potential security incidents through implementation of 10 new security controls in Google Cloud

Security Analyst Intern — Northwest Natural Energy, LLC   May 2021 – August 2021
- Enabled real-time tracking of 1000+ daily logins through Splunk dashboard implementation for threat detection
- Reduced team search time by 5+ hours weekly through overhaul of 100+ SharePoint files and incident plans

Projects

TZ Medical ECG Medical Triage | Oct 2023 – April 2024 | **github.com/HarryZ10/ecg**
- Collaborated with 3 students and 12 professionals to translate business requirements into technical specifications
- Extracted 8 domain features on over **34,000+** ECG events by developing standalone data processing and ETL scripts using **SciPy**, **NumPy**, and **Scikit-Learn**, resulting in ∼**95%** precision in identifying unnatural heart rhythms

Cascade Content Verification Platform | **Vue.js**, **Node.js**, **Docker** | **github.com/HarryZ10/gfu-validator**
- Engineered a full-stack application with **Vue.js** and **Node.js** that automated content verification for Hannon Hill Cascade CMS, reducing manual review time by **75%** for the digital analytics personnel
- Designed and implemented a containerized microservices architecture using **Docker** with separate frontend, backend, and database services, enabling seamless deployment across different environments

Self Career Blog | **React**, **PHP**, **AWS Ubuntu Linux**, **Apache** | Jan – April 2024 | **blog.harryzhu.com**
- Designed 10 **React** components and 9 back-end **APIs** using **PostgreSQL** on an **EC2** instance
- Implemented JWT APIs server-side and React Contexts and Hooks to manage user authentication and blog services

Pickabox | **React**, **Express**, **Google Cloud** | Feb 2021 (Revised May 2024) | **pickaboxdemo.netlify.app**
- Won 2nd place in Best Design by building a web app used by **1K+ users** to aggregate **Wikipedia** articles
- Designed and launched an app showcasing random Wikipedia articles to enhance user learning and exploration

Resume Bullet Point Syntax Generator | **Elixir**, **Linux** | **github.com/HarryZ10/api.resumes.guide**
- Developed a public web service that generates professional results-oriented resume bullet points using Elixir

Leadership Activities

Computer Science Lab Fellow — George Fox College of Engineering   August 2022 – April 2024
- Mentored 50+ students in group sessions for data structures, algorithms, database systems, and operating systems

Director of Student Associations & Clubs — George Fox University   August 2023 – April 2024
- Automated club expenditure system using **Google Apps Script API**, reducing approval timeline by **92.86%** while managing **100+** form submissions and a **$50K** operating budget
- Coordinated onboarding for **50+** club leaders, conducting **20+** leadership development sessions
- Implemented standardized club evaluation metrics, resulting in **80%** improvement in reporting compliance
- Led two biannual club president roundtables to guide cross-club collaboration, leading to **20+** joint campus events

Treasurer — George Fox Asian Student Union   August 2023 – April 2024
- Managed a **$4K** annual budget for cultural events and club activities, implementing digital tracking systems to improve expense transparency by **40%**
- Organized AAPI cultural week though panels and exhibits that attracted **100+** attendees and engaged **10+** alumni

President (Former Technology Director) — George Fox ACM-W Chapter   August 2021 – May 2023
- Led a team of **4** officers to organize **12+** technical workshops and speaker events, increasing member engagement by **40%** for annual hackathon event of **20+ participants**
- Delivered **5+** weekly production builds for ACM-related websites using **React** and **Node/Express**, streamlining club marketing and reducing administrative workload by **90%**
- Managed a total of **$2K** operating budget and achieved **90%** increase in alumni engagement rate (**22%** cumulative) for an annual hackathon through strategic partnerships with locally-grown, Oregon-based company, Silverpine