Christian Vaughn

✉ contact@christianvaughn.net ☐ (559) 579-7885 in https://github.com/ChristianVaughn ☁ https://christianvaughn.net/

SUMMARY

Software Engineer with experience in backend development, Typescript, Python, APIs, databases. Skilled in developing, testing, and deploying software. Proven ability to design effective and efficient architecture solutions.

EXPERIENCE

Software Engineer II, Backend
Keiser Corporation | **August 2023 – April 2024, Fresno, CA**

Software Engineer, Backend
Keiser Corporation | **August 2022 – August 2023, Fresno, CA**
- Designed, developed, and maintained robust API and backend tools utilizing JavaScript and TypeScript, ensuring seamless integration and optimal performance.
- Designed and implemented OpenAPI data-driven code generation solutions to automatically generate client SDKs from existing APIs, streamlining development processes.
- Leveraged AWS for efficient cloud deployments and infrastructure management, optimizing system performance and scalability.
- Working in an agile development environment and with a cross-functional team to coordinate and implement the delivery of product features and bug fixes, with a focus on quality, cost, speed, and customer satisfaction.

Software Engineer
Computer Systems Plus | **April 2022 – August 2022, Fresno, CA**
- Developed cutting-edge server automation and management software as a contractor, streamlining operations and enhancing productivity.
- Engineered a comprehensive solution to process repair estimates from auto body shops, enabling seamless integration of sales and price adjustments.
- Automated the upload of updated estimates to a user-friendly online portal, simplifying the parts ordering process for auto body shops.
- Implemented efficient automation solution for multiple clients, resulting in a 40% reduction of manual processes and improved efficiency of customer service resolution by 95%.

Lab Instructor
California State University Fresno | **August 2021 – December 2021, Fresno, CA**
- Served as the Lab Instructor for CSCI 41 Data Structures and CSCI 115 Algorithms and Data Structures courses, promoting student growth and understanding.
- Prepared and delivered engaging, hands-on lab sessions to enhance student comprehension of complex data structures and algorithmic concepts.
- Provided one-on-one support to students, clarifying course material and addressing individual learning needs to ensure academic success.
- Administered pre and post assessments to measure effectiveness and impart a better understanding of fundamental computer science principles.

PROJECTS

Unggoy – Halo Infinite Fileshare
https://www.unggoy.xyz/
- Engineered a robust API and user-friendly front-end platform to navigate Halo Infinite's user-generated content, enabling gamers to share, and discover custom game files seamlessly.
- Developed a type safe backend utilizing Elysia JS and SvelteKit reactive front end.
- Implemented a secure OAuth 2.0 login system integrating Microsoft Entra ID enhancing user authentication security.

Towards Local Training of Artificial Neural Networks for Supervised Learning
- Conducted research on local learning neural networks, a biologically plausible and energy efficient approach.

- Proposed a novel method that integrated concepts from transformers, associative learning, and Hebbian learning to tackle classification tasks.
- Developed a custom neural network model using a reflex-based Generalized Hebbian Algorithm.
- Demonstrated faster training and comparable accuracy with existing learning rules.
- Progressed towards the completion of a research paper, currently in development, to showcase findings through publication.

An Efficient Parallel Divide-and-Conquer Algorithm for Generalized Matrix Multiplication

https://ieeexplore.ieee.org/document/10099141
- Collaborated in a group research effort to devise a more efficient generalized matrix multiplication algorithm.
- Implemented a parallel divide-and-conquer approach for general matrix multiplication in Python, leveraging matrix. partitioning and GPU computation with CUDA.
- Outperformed existing generalized matrix multiplication algorithms, showcasing the potential for practical applications.
- Presented and published the research and its noteworthy findings at the IEEE Annual Computing and Communication Workshop and Conference.

Disease Simulation Project: Modeling Spread and Impact Factors

- Collaborated in a group project to develop a comprehensive disease simulation for a fictitious illness as part of a simulations course at Fresno State.
- Modeled the transmission dynamics, incorporating various factors influencing the spread and mortality rate of the disease.
- Conducted extensive simulations to analyze the effectiveness of containment strategies and the potential impact on public health.
- Presented findings to peers and faculty, promoting awareness and understanding of disease management and prevention strategies.

EDUCATION

Masters of Computer Science
California State University Fresno · Fresno, CA · 2022 · 3.55

Bachelors of Computer Science
California State University Fresno · Fresno, CA · 2020 · 3.5

SKILLS

Languages: Python, JavaScript, Typescript, SQL, MySQL, Postgres

Technical Skills: API, NumPy, PyTorch, Pandas, scikit-learn, OpenAPI Code generation, Git, GitHub, Github Actions, Unix, Linux, Elysia, Express, CI/CD Pipeline, Docker, Redis