David Ban

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SUMMARY

Enthusiastic engineer with a drive to contribute to innovative solutions. Eager to be involved in the design, development, and implementation of engineering projects. Demonstrated hands-on leadership in enhancing processes, automating tasks, and optimizing project delivery for increased efficiency and reliability. Committed to prioritizing safety and quality in engineering practices for successful project outcomes.

SKILLS

- **IT:** IT Governance, Service Delivery, Capacity Planning, Roadmap Development, CI/CD, Platform Administration, Cloud Services, Integrations, Testing & Automation, Performance Monitoring, User Training, Technical Support & Troubleshooting
- **Information Security:** Identity, Access Management, SSO, Data Security & Privacy, Network & Application Security, Account Security & Password Management, Server Monitoring, Risk Management, Documentation
- **Computer Languages:** Java, Python, HTML/CSS, SQL, PyTorch, JavaScript, Node.js, Typescript, C, C++, Bash, Git, LaTeX
- **Languages:** English, Chinese (Mandarin), French

EDUCATION

Expected Graduation: May 2024

- Bachelor of Arts in Computer Science University of California, Berkeley **GPA: 3.83**

RELEVANT EXPERIENCE

Full Stack Intern, Enable Medicine **June 2022 - August 2022**

- Spearheaded the development and implementation of a robust pipeline integration for seamless generation of cell analysis and insights in Python, resulting in improved efficiency and accuracy.
- Conducted data and image analysis of cell annotations and screenings to extract valuable insights and drive informed decision-making
- Designed and developed a user-friendly front-end application using Node and AWS, empowering users to independently generate customized analysis of cell types and distances.

Machine Learning Researcher Computational Biology Dept of University of Pittsburgh **January 2018 - July 2020**

- Developed and implemented spatial transformer neural networks to accurately predict protein-ligand binding using Caffe and PyTorch.
- Conducted extensive research to evaluate and compare different models using various metrics and visualizations, creating a data-driven approach to optimize performance and interpretability.
- Presented research findings at multiple science fairs and national symposiums.

PROJECTS

AI Voice Translator **May 2023 - Present**

- Developed and implemented an AI-powered voice conversion system for a website, enabling users to transform their voices in real-time for use in calling applications such as Discord.
- Created a user-friendly interface and integrated the voice conversion functionality seamlessly into the website, providing a smooth and intuitive experience for users.
- Optimized the website's performance, scalability, and compatibility with various calling apps.

Sound Diffusion AI Model **August 2023 - Present**

- Conducting research centered on exploring Stable Diffusion as a novel technique for visualizing sound, allowing users to input music or sound into the SD model.
- Utilized various waveform representations and visualizations to enhance the understanding and interpretation of audio data for the model.
- Trained, tested, and generated several models to learn sound attributes through SD.

PintOS: A simple operating system **September 2022 - December 2022**

- Developed a complete operating system from the ground up using C, implementing essential components such as process management, memory management, and file system functionalities.
- Designed and optimized data structures and algorithms to efficiently handle system resources, enhancing the performance and scalability of the operating system.
- Conducted rigorous testing and debugging to ensure the stability and reliability of the operating system, delivering a robust platform for various computing tasks.

Campus Involvement

- Berkeley Math Tournament Organizer, Dance Games at Berkeley Officer, Historical Fencing at Berkeley Officer