DANIEL KIM

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Education

The University of Texas at Austin May 2025
Bachelors of Science, Computer Engineering
GPA: 3.6/4.0

Job Experience

HPC Software Engineer Intern – *Hewlett Packard Enterprise* May 2023 – Present

- Designed monitoring systems and dashboards for the El Capitan project, a two exaflop supercomputer at the government-funded Lawrence Livermore National Laboratories, optimizing data processing and resource allocation and leading to a decreased acceptance period for HPE.
- Implemented and configured custom Grafana dashboards and data monitoring system, utilizing time-series databases, Apache Kafka, RESTful APIs, and other technologies on HPE supercomputers.
- Developed a Python Kafka Producer with multiprocessing to efficiently parse and transform logs and metrics from next-generation HPC hardware (Rabbit) into JSON strings, enabling seamless integration with OpenSearch.
- Utilized command-line interface (CLI) to perform system configurations, including HPE Cluster Management Software, ensuring optimal functionality and performance of HPE supercomputers.
- Developed a robust C++ script to securely wipe memory from diverse hardware components on next-generation HPC hardware (Rabbit), enhancing data security and mitigating the risk of unauthorized data access to government research on nuclear simulations and climate change studies.

Personal Projects

Auction Server and Client – Java, JavaFX, MongoDB April 2023 – May 2023

- Developed a multi-user bidding system featuring a local server and client components, enabling simultaneous bidding by multiple users.
- Implemented real-time bid tracking by storing bid data and items on MongoDB, ensuring that every bid was displayed instantly on all connected clients.
- Designed and created a visually appealing custom login screen and user-friendly graphical user interface (GUI) for each client, enhancing the overall user experience.

Yerraballi vs Valvano– *C, Assembly* Jan 2022 – May 2022

- Developed a responsive two-player turn-based game utilizing C, Assembly, and hardware components, creating an engaging and interactive gaming experience.
- Designed and crafted custom sprites for characters and in-game objects using Aseprite, enhancing the visual appeal and uniqueness of the game.
- Implemented interrupt service routines with an EK-TM4C123GXL Microcontroller and sliding potentiometer to display the game on a wired LCD display, demonstrating hardware integration skills.

Beat Maker– *Python, Pygame* Aug 2022

- Developed an engaging and interactive beat maker with customizable options and user-friendly assistive buttons, enhancing the overall user experience.
- Integrated various WAV files and custom sound effects to create a dynamic and responsive musical experience, resulting in increased user engagement and creativity.
- Designed a captivating custom loading screen and an original logo using Adobe Illustrator, enhancing the user experience and engagement.

Additional Information

Computer Skills: TimescaleDB, Prometheus, Kubernetes, Kafka, Linux, PostgreSQL, Grafana, Docker, Python, Java, JavaScript, HTML5, C, C++, Golang, Flask, React, Heroku, Assembly, CSS, Redfish API, REST API, RHEL, OpenSearch, Logstash, CLI

Languages: Conversational in Korean

Work Eligibility: Eligible to work in the U.S. with no restrictions.