

Anderson Junsu Park

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EDUCATION

University of California, Berkeley Berkeley, CA
Bachelor of Arts, Data Science & Bachelor of Arts, Physics *August 2019 - December 2024*

PROFESSIONAL EXPERIENCE

Ion Trap Group Berkeley, CA
Research Intern with Professor Hartmut Häffner *August 2022 - December 2024*

- o Led the implementation of a continuous-wave laser heating system for calcium ion loading and thermal isolation structures, achieving fluorescence detection and thermal control at 500K for trapped-ion quantum computers.
- o Redesigned IonSim, a Julia-based simulation framework, to improve performance for research reproducibility.
- o Documented system architecture, procedures and results in a research poster and publication for the Berkeley Physics & Astro Undergraduate Research Scholars Program (BPURS).

Lawrence Berkeley National Lab (LBNL) Berkeley, CA
Lab Assistant with Professor Barbara Jacak *October 2022 - April 2023*

- o Launched airflow simulation software using Python and NumPy for thermal modeling of silicon detectors, leading to a 25% improvement in cooling efficiency.
- o Automated temperature data analysis and reporting pipelines with Python and Pandas, reducing manual processing time by 70%.

Network for Neutrinos, Nuclear Astrophysics, and Symmetries (N3AS) Berkeley, CA
Research Intern with Professor Sherwood Richers *February 2020 - September 2020*

- o Deployed a C++ simulation module to solve quantum kinetic equations, utilizing multithreading to accelerate compute-heavy operations by 40%.
- o Built an automated testing and validation framework to compare simulation results with benchmark datasets, ensuring model fidelity and code correctness.

LEADERSHIP & ACTIVITIES

Korean Augmentation To United States Army (KATUSA) Camp Casey, Korea
ROK Army Sergeant *September 2020 - March 2022*

- o Developed a communication pipeline system to facilitate information exchange between ROK and US Army leadership, reducing miscommunication and improving decision-making efficiency.
- o Led the Combat Life Saving (CLS) training program resulting in 5+ soldiers earning CLS certification and improving emergency response preparedness.

UC Berkeley, College of Engineering Berkeley, CA
Reader & Tutor *August 2022 - December 2024*

- o Provide academic support to 20+ students for in a weekly lab section through explaining concepts, guiding debugging processes, and clarifying project questions.

Quantum Computing KR Manager Remote
Project Lead *January 2021 - August 2022*

- o Led the development of an interactive web-based platform for a quantum computing community, providing structured documentation and real-time collaboration tools for researchers and students.

PROJECTS

RFC word count: Implemented a distributed word count system using Ray to parallelize the computation, significantly improving scalability and efficiency. Achieved a 5x speedup over single-threaded approaches.

WordNet: Developed and deployed an NLP-based text classification system

SKILLS

Languages: Python, Java, C++, Julia, R, SQL

Libraries: NumPy, Matplotlib, pandas, Ray, scikit-learn, pytorch, tensorflow Qiskit, pennylane, Qutip, Ionsim

AWARDS AND CERTIFICATES

- Army Commendation Medal (2022): Received from the Department of US Army.
- Army Warrior Award (2022): Received from the Department of the ROK Army.
- Certificate for Quantum Algorithms for Cybersecurity, Chemistry, and Optimization (2022): Received from MIT
- Certificate for Qiskit Global Summer School: Quantum Machine Learning (2021) : Received from IBM