Brian Kim

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Education

B.A. Computer Science, B.A. Statistics — **University of California, Berkeley** — **Graduating 05.2024**

- **Technical Upper-Division GPA**: 3.74/4.00
- **Coursework:** *CS61B*: Data Structures **(A)**, *CS61C*: Computer Architecture **(A)**, *CS161*: Computer Security **(A)**, *CS170*: Algorithms **(A-)**, *CS162*: Operating Systems **(enrolled)**, *CS186*: Database Systems **(enrolled)**, *Math53*: Multivariable Calculus **(A+)**, *Math54*: Linear Algebra **(A)**, *Stats131A*: Probability and Statistics **(A)**, *Stats133*: Computing Data **(A)**, *EECS127*: Optimization Models in Engineering **(A-)**, *Stats150*: Stochastic Processes **(enrolled)**

Work Experience

Software Development Intern — **Samsung SDS** — *Seoul, South Korea* — **06.2023 - 08.2023**

- Worked at Samsung's Cloud SCM Department. Fulfilled the demand of customers going cloud native by developing a scalable **Verification API** hosted on a Virtual Machine, designed to handle verification requests from containerized Samsung services.
- Built a **Lightweight C++ Applet**, deployed on Kubernetes, that verifies the license of the Cloud SCM Platform.
- Designed/Implemented a **Troubleshooting Tool** that checks the status of the Verification Server and displays License's details.
- Gave a **Tech Talk** to the Samsung SCM team on deploying Monolithic Platforms to the Cloud through Containerization.

Software Development Intern — **Juniper Networks** — *Sunnyvale, CA* — **05.2021 - 08.2021**

- Participated in the development of the Cloud-Native Contrail Networking (CN2) platform and Implemented software that visualizes **Kubernetes Networking Components** on a Go web server.
- Implemented a automated and streamlined testing system, allowing users of CN2 to write **Custom Testing Protocols** in JSON format. The custom tests check against expected K8S components and visualizes missing or malfunctioning pods or components.
- Contributed to the successful launch of CN2 and published a patent, **"Analysis System for SDN Architectures (2022, 12)"**.

Sergeant, Squad Leader — **Republic of Korea Army** — *USAG Humphreys* — **11.2021 - 05.2023**

- Took two **Gap Years from College** to serve as a Linguist, Squad Leader for the R.O.K Army, Combined Forces Command, Signal Unit

Research Experience

Research Assistant — **Berkeley SkyLab: Skyplane** — *Berkeley, CA* — **07.2023 - Today**

- Building an inter-cloud object transfer system, optimizing for cost or throughput, advised by **Professor Ion Stoica** and **Joseph E. Gonzalez**.
- Collected IP ranges for Microsoft Azure, allowing Skyplane to detect Azure region based on IP address.
- Integrated Skyplane's CLI and Library with **Google Bigquery**, enabling inter and intra cloud data transfers to and from Bigquery.

Research Assistant — **Berkeley EECS: JIPCAD** — *Berkeley, CA* — **09.2020 - Today**

- Worked on Developing/Testing a 3D Graphics CAD software with **QT, OpenGL,** and **C++** under the supervision of **Professor Sequin**.
- Developed an **Error Reporting Module** for JIPCAD's graphic generation language by tokenizing code and checking for syntax errors.
- Lead **Dynamic Scenes** development: Built Modules for **Orthogonal and Perspective Displays** under a specified frustum. Added new **Ambient, Directional, and Cone lighting** features.
- Made the Sharpness and **Catmull-Clark Subdivision** features more robust through in-scene Merging. Allowed users to define **Hierarchical Coloring** of faces.

Projects

DIST.AI — *HTML/CSS/JS, OpenCV, Flask, Tensorflow.js, MongoDB* — **06.2021**

- Tackled the problem of **Social Distancing** by building a **Camera Feed Analyzer**: detects individuals in a frame, detects **Lines and Groups of People** through the use of MSTs and K-Means Algorithms. Outputs statistics and a heatmap of the most crowded areas.

Awards

- **Dean's Honor List (2021)**
- **Vanderbilt University Hackathon 2nd place, Best Use of Google Cloud Award (2020)**
- **Ronald Reagan Student Leadership Award (2018)**

Patents

Analysis System for Software Defined Network Architectures — *JNP3631-US* — **Registered 12.2022**

- Patent on automating tests on the control plane and data plane of Software Defined Network through analyzing Kubernetes components.

Skills

Programming Languages: C/C++ | Python | Java | Go | HTML/CSS | Javascript | SQL | Unix Shell |
Framework: Django | Spring Boot | Docker | Kubernetes | Heroku | AWS | Azure | REST | Jira/Confluence | Cryptography | Git |
Knowledge-Base: Concurrency | Computer Security | Networking | Cloud-Computing | Web Development | Computer Graphics | DevOPS |