Brian (Sangyeong) Kim

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Skills

- Python | C++ | Java | Go | HTML | CSS | Javascript | JQuery | MongoDB | Django | Spring Boot | OpenCV | Git | QT | Heroku |
- Docker | Kubernetes | Heroku | Vercel | AWS | Azure | Microservices | Computer Security | Network-Fundamentals | Cryptography |
- CI/CD | Cloud-Computing | System Development | Software Defined Networking | Web Development | Computer Graphics |

Experience

Research Assistant — **SKY PLANE** — *Remote* — **07/2023 - Today**

- Joined the team working on SkyPlane, part of SkyLabs, advised by Professor Ion Stoica. We are building a global object store, utilizing all cloud providers and optimizing for price and performance.

Software Development Intern — **Samsung SDS** — *Seoul, South Korea* — **06/2023 - Today**

- Worked at Samsung's Cloud SCM Department. Developed a lightweight **License Verification Server** that is hosted in a VM.
- Built a cloud testing environment with Kubernetes. Checked that each container could send a license verification request.

Software Development Intern — **Juniper Networks** — *Sunnyvale, CA, USA* — **05/2021 - 08/2021**

- Participated in the development of the Cloud-Native Contrail Networking (CN2) platform and Implemented software that visualizes **Kubernetes**, **OpenStack**, or **OpenShift** components on a **Go** web server.
- Designed and implemented automated testing features, allowing users of CN2 to write custom testing protocols in JSON format. The custom tests check against existing components and visualizes missing or malfunctioning components.
- **Optimized runtime** for component visualization and running custom tests by utilizing **multithreading**.
- Contributed to the successful launch of **CN2** and published a patent, **"Analysis System for Software Defined Architectures (2022, 12)"**.

Research Assistant — **JIPCAD** — *Berkeley, CA, USA* — **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.

Head of Engineering — **Aware** — *Seoul, South Korea* — **08/2021 - 11/2022**

- Led the development of a **Financial Commentary and Analysis Web Service Startup**, complete with an article website, subscription service, and email alerts, resulting in **1000+ customer growth** and securing a **$100,000 investment** from the government.
- Designed and implemented the article website, complete with user registration, post-viewing/editing interface, post recommendations, subscription interface, and an admin management page with **Django** and **MySQL** Database.
- Supported **Continuous Integration** to our web service: [feature proposal -> development -> local testing -> deployment -> monitoring].

Sergeant, Squad Leader — **ROK Army** — *USAG Humphreys* — **11/2021 - 05/2023**

- Took a **2 year break from university** to serve as a Linguist for the Republic of Korea Army, Combined Forces Command, Signal Unit

Education

B.A. Computer Science, Statistics — **University of California Berkeley** — *Berkeley, CA, USA* — **08/2018 - 05/2024**

- Technical Upper-Division GPA: 3.74/4.00
- Military Service Gap Year: 2021 ~ 2023

Projects

DIST.AI — *HTML/CSS/JS, OpenCV, Flask, Tensorflow.js, MongoDB* — **06/2021**

- Detects people from a video via **YOLO Architecture Neural Network**. Distinguishes lines/groups of people using **MSTs** and **K-Means algorithm**. Generates a **heat map** of the most crowded areas of the video frame.

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**