Ji Hwan KIM

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EDUCATION

HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY   **HONG KONG**
Bachelor of Science in Physics   *Sep 2015 - Jun 2022*
- University Admission Scholarship Scheme for IB Diploma Holders

BRITISH INTERNATIONAL SCHOOL, JAKARTA   **INDONESIA**
International Baccalaureate Diploma   *Jun 2013 - May 2015*
- Overall 41/45 Points: including Higher Level Mathematics, Chemistry, Physics, Standard Level Mandarin, English Language & Literature, and Economics. An Extended Essay in Physics

DULWICH COLLEGE BEIJING   **CHINA**
                                                                                        Sep 2010 - Jun 2011

GARDEN INTERNATIONAL SCHOOL   **MALAYSIA**
                                                                                        Jan 2006 - Jul 2010

PROFESSIONAL EXPERIENCE

INTEL   **REPUBLIC OF KOREA**
Software Engineer Intern, Platform Application Engineering, Internet of Things Group   *Nov 2020 - Present*
- Created Jupyter Notebook based course and hands-on education material regarding Artificial Neural Networks, Convolutional Neural Networks and Computer Vision using OpenCV targeted towards university students.
- Structured server architecture and tested migration of internal the IPS Visualizer web application to a dedicated server using Ansible and QEMU to virtualize Linux environment. Then containerized the application using Docker and deployed it onto a dedicated server.
- Debugged the data filtering logic in the Python based backend of the IPS Visualizer and fixed missing data rendering, also improving chart readability and UX. Git based code review and merge.
- Designed and developed Vue.js and Python based Full Stack web application to improve UI/UX and address scalability issues due to growing data size (100GB of serverless SQLite data) of the legacy IPS Visualizer.
- Implemented performance benchmarking with SQLite (serverless), InfluxDB (time-series), and MariaDB (relational) and tested memory and performance of each databases with 100,000+ lines of data.
- Participated in developing source code for the Smart Factory Demo which uses Deep Learning to identify defects in a live assembly line. Specifically developed Python script to select ROI from dynamic camera input, process raw image data, and applied TensorFlow based pre-trained models to identify defects.
- Set up and tested Ubuntu environment on Intel NUCs to prepare for hands-on education targeted towards tech companies and universities. Created a master image of the main NUC using Clonezilla and replicated exact setup and environments to 6 NUCs.
- Studied literature material on the algorithm and theory behind Shear-Wave Elastography to understand C++ based OpenCL source code for medical imaging, and searched for opportunities to optimize code using Intel's Data Parallel C++.
- Structured and developed Full Stack Dashboard for Shearwave Performance Analytics for internal and external usage. Created shell script to run the C++ medical imaging source code and record the time performance and push the result to a SQLite Database which would dynamically render the Dashboard and visualize performance improvements as a one-stop tool.
- Integrated SigOpt to a PyTorch based internal video analytic tool model to automate model development and parameter tuning. Utilized active learning and transfer learning to improve final model accuracy to 99.x%.
- Implemented Keras U-Net implementation to replace existing MobileNet model for medical image segmentation and checked feasibility of model with ISBI medical dataset.
- Initialized setup environment for Intel AI Workflow Platform (Deep Learning application platform) in Docker container form and used Kubernetes to orchestrate the containers.

UNITED STATES FORCES KOREA   **REPUBLIC OF KOREA**
Translator and Interpreter, 35th Air Defense Artillery Brigade, Osan Air Base   *Nov 2017 – Aug 2019*
- Participated in numerous joint military exercises as a translator and interpreter under highly intense dynamic training environments and was awarded Certificate Of Achievement by the US Commander in charge.

LEADERSHIP & EXTRA-CURRICULAR ACTIVITIES

HKUST KOREAN STUDENTS ASSOCIATION BAND   **HONG KONG**
Band Club Leader   *Sep 2016 - Sep 2017*
- Managed 4 different bands, organized and performed concerts.

SCHOOL OF SCIENCE, HKUST   **HONG KONG**
Student Mentor   *Sep 2016 - Sep 2017*
- Leadership role in guiding, and helping School of Science freshmen.

CORE COMPETENCIES

Multinational: Experience in Korea, Malaysia, Philippines, Indonesia, China, and Hong Kong.
Multilingual: Native fluency in Korean and English. Basic fluency in Mandarin Chinese.
Programming: Python, C++, JavaScript, HTML, CSS, Database Languages (MySQL, MariaDB, MongoDB, InfluxDB), Docker, Linux.