
Jongyoon Kim

PROFILE

- Home Address: 707-501, Imae 16, Bundang Gu Seoungnam City Gyeonggi Do, Korea (Republic of) (13565)
- Term Address: Room 1.53, Cathedral Park, Park Place, Bristol (BS8 1JR)
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- Languages: **Native Korean** and **Fluent English**.

EDUCATION

ELECTRICAL AND ELECTRONIC ENGINEERING (BENG)

UNIVERSITY OF BRISTOL, BRISTOL, UNITED KINGDOM – SEPTEMBER 2018 – PRESENT

- **Second year** Average Grade: **First-class** (72% achieved with 3 units maximum pass due to COVID19)
 - 80% achieved from 'Signal and systems' which is a base for **signal processing** includes Fourier and Laplace Transform.
 - From 'Digital Systems', a serial **communication controller** was developed with **VHDL** (79% achieved).
 - 73% score achieved from SMPS Project, successfully designing Switched-Mode Power Supply.
- **First year** Average Grade: **First-class** (81.5 % (excluding optional Unit), 79% (including optional Unit))
 - Over **80% score achieved in circuit-related units** such as Digital Circuits and Systems, and Electronics.
 - **90% score** achieved from **Further Computer Programming** which used **C/C++** and **Java** for languages.
 - **Award**: Paul Dirac scholarship due to academic excellence in university application (18/19).

HIGH SCHOOL CERTIFICATE (A LEVELS EQUIVALENT) IEN INSTITUTE KOREA, SEOUL, KOREA – 2017

- A-levels (Grade): English for Academic Purpose (**A**, equivalent to IELTS 7.0), Chemistry (**A***), Further Mathematics (**A***), Pure Mathematics (**A***).
- APs (Score/5): AP Physics 2 (**3/5**), AP Physics C: Mechanics (**5/5**).
- **Award**: NCUK-IEN 2nd place award due to academic excellence during foundation year programme.

RELEVANT WORK EXPERIENCE

INTERNSHIP, NAVER Corporation, SEONGNAM, KOREA

JUNE 2020 – SEPTEMBER 2020

- **Building Front-End of Webpage** for image search engine management team to control image search result. The image search result from a search engine cannot filter perfectly.
- **Discovering new web features** to enhance video search engine built with Machine Learning(ML) model.
- **Building a new ML model** to enhance video search engine built with machine learning model.
- **Building webpage (Full-Stack)** for video search engine management team to control video search results. Filter the videos that are not been filtered by the ML model.

INTERNSHIP, ENVISIBLE, SEOUL, KOREA

JUNE 2018 – SEPTEMBER 2018

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JUNE 2019 – SEPTEMBER 2019

- **Designed and built 3D CAD models** of interactive electronic kiosks for kids cafe using Fusion 360 to print the 3D model with 'Ultimaker' and LEGO Digital Designer to make a blueprint of kids cafe.
- **Created a CAM file for CNC milling machine** to cut and cast the material that is needed for kiosks.
- **Comprehended and engineered electrical devices including Arduino** which controls the kiosk.

TECHNICAL SKILLS WITH PROJECTS

- **COVID-19 analysis Web** (Direct link: <http://covid.johnjonyoonkim.com>)
 - Technical skills: MySQL, Python(Flask, Airflow ETL), HTML, CSS, JavaScript (Vue.js), docker and Linux (server), Network protocols
 - To support the current crisis due to COVID-19, **a personal server built with Raspberry Pi 4** providing not only the **current** number of patients but also the **predicted** number of the confirmed patient. In addition, **relationships** between recovery rate and other medical information were analysed.
 - The COVID-19 patient information was collected with own crawler then replaced by **pulling** pre-processed information from John's Hopkins University's **Github** and **stored in MySQL**
 - **Prediction** of confirmed patient numbers is done with **ARIMA model and SEIR model in python**.
 - To improve the speed of processing, **parallel asynchronous processing** is used.
 - the webpage was designed with **Vue.js** and hosted by **Nginx web server in a docker container**.
- **IoT device with Arduino**
 - Technical skills: Electronics, Communications(Serial), Control, Network protocols, and C/C++
 - A **servo motor** is attached on the window that can open and close with some degree.
 - The servo motor is mainly controlled by **Arduino** programmed by **C/C++**.
 - The controller is connected to the personal server via WI-FI and the server **sends information to IFTTT** which makes the controller can be controlled by 'Siri'.

OTHER EXPERIENCE

DEMONSTRATOR (HOURLY PAID TEACHER), UNIVERSITY OF BRISTOL
BRISTOL, UNITED KINGDOM
2020 OCTOBER - PRESENT

- Working as **Demonstrator** on 'Fields and Device', 'Switched Mode Power Supply Project', and 'Electronics 2'.
- I am **supporting lecturers** by helping students struggling with lab sessions mostly converted to online MATLAB (Simulink) simulation due to COVID-19, including complex debugging, script coding.
- I also support students' understanding of electronics on the drop-in sessions with various visual methods.

STUDENT REPORTER & AMBASSADOR, IEN INSTITUTE KOREA, SEOUL, KOREA – 2018 – 2019

- Writing short essays or reports with some pictures and videos about the University of Bristol for students who are studying the International Foundation Year in Korea.

INTERESTS

- I am interested in **problem solving** using **computer programming and engineering skills**.
- I am curious about **human activities** and interested in applying **engineering, science and mathematics theories** to other fields especially that related to human such as **psychology**.

RESEARCH INTEREST

- Application of **Machine Learning** (ie. Control System with Machine Learning, Machine learning for forecasting).
- Better **Parallel, Distributed computing** for large volume of data.
- Real-Time/Non-realtime **Computing for Vision and Human Friendly content** (ie. image processing, OCR, NLP)