SEUNGYEON SELENA PAIK

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EDUCATION

Purdue University | West Lafayette, IN — Aug 2022 – Present
Masters of Science, Computer and Information Technology

Ewha Womans University | Seoul, Korea — Mar 2014 – Feb 2019
Bachelor of Science, Computer Science & Engineering

WORK EXPERIENCE

Koscom (Korea Securities Computer) — Oct 2020 – Present
Stock Market Infrastructure Technology Team, Software Engineer

- Working as an Oracle database administrator of Korea stock market database systems

KT (Korea Telecom) — Dec 2018 – Oct 2020
Wireless Core Network Operation Team, Software Engineer

- Operated wireless core network servers, conducted acceptance tests, analyzed IP packets for troubleshooting
- Developed applications to improve network systems' operational efficiency

| Real-time Audio Processing Unit (APU) system — *Arduino, Raspberry Pi, C, Python*

- Developed a real-time APU system that generates sound and light when an alarm is triggered
- Intended to monitor the real-time status of network equipment and inform quickly in the event of failure

| Real-time Object Detection Application — *TensorFlow, OpenCV, Unity, Android, Python, Java, C#*

- Developed an Android application that detects image targets and shows objects on targets using the YOLO model to improve network system's operational efficiency
- The application recognized each part of the network equipment as a target and checked the method of replacing each part in case of failure with video and augmented images

NAVER — Dec 2017 – Feb 2018
NAVER Search Image and Video Searching Technology R&D Team, Software Engineer Intern

| Fake Video Detection System — *Python, OpenCV*

- Established a system that detects videos composed only of static images or text using the frame difference method
- Conducted experiments on the various methods for precise detection, combining several feature-matching/machine learning algorithms
- Extracted feature points from each of two consecutive thumbnails of videos; detected fake videos by the trend of movement of extracted feature points

PROJECTS

Wearable Health-Check System for Dementia Patients — Mar 2016 – Dec 2016
Hanium Competition (competition organized by Korea Ministry of Science and ICT) — *Android, Java, PHP, Arduino*

- Developed a real-time biological state monitoring application for dementia patients using an Arduino board as hardware
- Responsible for creating the Android application; received data from various sensors (temperature, humidity, slope, GPS, heart rate) and processed them to be identifiable by the application

Computer Vision Undergraduate Research Project — Mar 2018 – Jun 2018
Ewha Womans University — *C++, Python, OpenCV*

- Implemented an automatic image stitching program using SIFT and SURF to find the descriptor points and the RANSAC algorithm to match the image to features
- Implemented a system that detects the human face, mouth, and eyes from a real-time video stream using Haar-like features and a cascade classifier

Voice Emotion Analyzing Application Jun 2017 – Dec 2017

Ewha Womans University Challenge Semester Competition *Android, Java, Python*

- Developed an Android application that analyzes emotions (joy, sadness, impassivity, anger) in the human voice based on context and vocal features using IBM Watson API and machine learning algorithms
- Conducted an experiment analyzing the frequency values of voices and used the values with several machine learning algorithms to train the application to determine the emotions contained in a voice

BLE Beacon-based Travel Guide Application Mar 2017 – Oct 2017

Ewha Womans University Graduation Project *Android, Java*

- Developed an Android application that helps travel guides with their work and provides important information to travelers
- Included traveler number counting function with automatic beacon signal reception, real-time chatting between users, and ambient hot places-finding function

Electronic Anklet Data Management System Jan 2017 – Nov 2017

General Electric Korea Industry–Academic Cooperation Program *C, JavaScript, Node.js*

- Developed a web application using GE's industrial Internet software platform 'Predix' to improve the monitoring system of location-tracking control centers with an intuitive user interface
- Responsible for the backend server development; designed the application to receive and parse GPS data from electronic anklets

ACTIVITIES

Ewha Womans University Teaching Assistant Mar 2017 – Jun 2017

Data and Computer Communications

- Ran laboratories for 15 students once a week, had office hours every week, answered questions in person and online, reviewed the lesson; covered basic data communications, data networking, protocol architecture, TCP/IP, error detection and correction, LAN/WAN, ethernet, wireless LANs
- Assisted the course through explaining, grading, and answering the questions about weekly assignments to 80 students.

Ewha Womans University Institute of Computer Security (E-COPS) Mar 2016 – Dec 2016

Regular Member

- Participated in study groups for mobile security and web hacking; gave lectures on studied subjects on a weekly basis
- Implemented Android webcam motion detection application as team project

AIESEC Korea Mar 2015 – Dec 2015

Regular Member of Greenism (Environment Protection Project Group)

- Held an environmental forum and seminar at the National Ecological Center to promote the importance of environmental protection

HONORS AND AWARDS

- Dean's List, Ewha Womans University, 2017, 2018
- Challenge Semester Competition, Full-tuition Scholarships, Ewha Womans University, 2017
- University President's Special Award (1st prize in TOPCIT exam), Ewha Womans University, 2017
- Computer Science Department Tutoring Scholarship, Ewha Womans University, 2017

TECHNICAL SKILLS & LANGUAGE PROFICIENCY

SKILLS

- **Programming Languages:** C, C++, Java, Python, HTML/CSS, JavaScript, SQL
- **Software and Technology:** OpenCV, Android Studio, Flask, TensorFlow, Git, Node.js, Unity
- **Certifications:** Engineer Information Processing, Linux Master Level 1

LANGUAGES • Korean (native), English (fluent)