Woosang (Paul) Kang

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EDUCATION

Cornell University, College of Engineering
Ithaca, NY

Bachelor of Science in Computer Science; GPA: 3.944
Expected May 2023

EXPERIENCE

Backend Developer
Ithaca, NY

Cornell Design Tech Initiative
Sep 2020 - Present

- Implemented the backend API for a club application management system using Cloud Functions & Firestore
- Wrote and performed unit tests to validate sorting features and average response time and provided online documentations on API endpoints and function specifications for efficient collaboration with the frontend team

Freelance Web Developer
Seoul, Korea

Travel dNation
Jan 2020 - Apr 2020

- Built a web app MVP for a tourism service with geospatial querying by retrieving data from the Google Maps API
- Reduced average payload size up to 30% and response time by implementing pagination through query cursors
- Presented the product at major Korean airline companies (Korean Air & JinAir) for investment

Desk Sergeant, Military Police
Dongducheon, Korea

Korean Augmentation to the U.S. Army
Aug 2018 - Apr 2020

- Performed Korean-English translation and military law enforcement in professional diplomatic settings
- Completed service as a sergeant & leader of a section of 20+ members, received specialized joint training in multiple fields, covering the UCMJ, Taser certification, self-defense, and more

PROJECTS

R-tree Geospatial Database & Server

- Collaborated in a 4-member team to create an R-tree and reverse-index based geospatial database (coordinates and tags) and server with KNN, radius, and tag-based composite queries in OCaml functional language
- Contributed to the optimization of the R-tree algorithm by implementing node splitting and collapsing, and added CLI and server side logfile generation features to enable backups

Geospatial Service API

- Participated in a mobile app development team of 4, designed the database and the API with Flask-RESTPlus for a location-based service using PostgreSQL and PostGIS, containerized and deployed with Docker and Heroku
- Service selected as the Best Overall Application at the Cornell AppDev Hack Challenge hackathon out of 30+ teams

Virtual Learning Platform

- Implemented the custom user profile, email verification and tutor-student reservation system of a virtual tutoring service using Django, PostgreSQL, Docker and AWS S3 as a backend devloper in a 4-member team
- Won 1st place in the Virtual Learning Category at HackOurCampus hackathon out of 200+ participants
- Currently under progress of implementing planned features, including a credit-based payment system and Zoom & Calendly API integration under the mentorship of the hackathon panel

V's Pick - Mobile Application

- Developed a mobile Location Based Service for curated vegan restaurants in Seoul as the lead developer in a 4-member team
- Implemented admin features with Firebase cloud functions to verify user-submitted restaurant updates and analyze posting patterns of individual users to prevent spamming activities or fraudulent reviews

ACHIEVEMENTS

Dean's List, College of Engineering
Fall 2017, Spring 2018, Fall 2020

PROGRAMMING SKILLS

Languages: Python, JavaScript, Java, TypeScript, C++, OCaml, SQL, LaTeX

Web/Mobile: React, React Native, Node.js, Express.js, Expo, HTML, CSS, Bootstrap, Gulp

Database/Cloud: Firebase, MongoDB, PostgreSQL, AWS(Lambda, EC2, S3, API Gateway), Docker