SUNWOO KANG

swkang73@stanford.edu | Stanford, CA 94305 | 650-250-6375
http://web.stanford.edu/~swkang73/ | https://github.com/swkang73

CORE SKILLS

Programming: Python, bash, Typescript/Javascript, html/css, Swift, C/C++, SQL
AWS services (EC2, VPN), Django, React, jQuery, ajax, NodeJS, Docker, Pyramid/Flask, Hadoop/Spark
Language: Korean (fluent), English (fluent), Mandarin (intermediate)

CAREER EXPERIENCE

Bioinformatics Engineer, Invitae *June 2020 – Present*
Production software engineering team

- Created new dashboard that involved developing flask backend APIs and dynamic frontend UI that has complex visualization plots.
- Interacted with IGVPool, Laboratory Information Management System (LIMS), Variant DB for developing new analysis tool
- Maintained web analysis toolkit by monitoring system through Grafana, New Relic, and Splunk
- Implemented new cron job for ensuring external team's api for production monitoring
- Took part in pagerduty oncall duty to respond to P1 production incidents

Course Assistant, Stanford University *September 2020 – December 2020*
Assisted teaching CS145: Data Management and Data Systems

- Part of the teaching team for a course taught by Dr. Narayanan Shivakumar from Google BigQuery
- Contributed & managed assignments written in SQL and python and set in Google Colab environment

Software Intern at Genentech *June 2019 – September 2019*
Created web visualization for MS based proteomics

- Developed an interactive web visualization tool using typescript supporting multi-scale visualization
- Ran high throughput computation analysis through Spotfire, R, and SQL queries
- Selected for Genentech Leader Intern Exchange program (gLINX) and mentored by senior VP executive

Research Assistant at Stanford Medical Center *June 2017 – June 2020*
Developed research infrastructure for human metabolome analysis

- Developed data collection procedure for profiling human breath based metabolome using SIFT-MS
- Standardized data for developing biomarkers primarily using Principal Component Analysis (PCA) in python
- Implemented state of art machine learning algorithm based on ensemble classifier approach to predict subject genotype based solely on breath metabolome scan, boosting 95% accuracy

EDUCATION

Stanford University *September 2016-March 2021*
M.S. in Computer Science, concentration in Artificial Intelligence
B.S. in Biomedical Computation, concentration in Simulation
Korea Presidential Science Scholarship for Four Years

- Relevant Coursework: Artificial Intelligence: Principles and Techniques (CS221), Mining Massive Data Sets (CS246), Data Management and Data Systems (CS145), Design and Analysis of Algorithms (CS161), iOS Application Development (CS193P), Principles of Computer Systems (CS110)

Extracurricular Activities

Google Games Bay Area *April 8, 2017*
Team leader

- Team ranked top 20 out of 110+ student teams from Stanford University and UC Berkeley
- Used java program to produce arraylist of prime numbers, found quickest route using Dijkstra Algorithm

Sigma Psi Zeta, Asian-American Greek Sorority *September 2017 – October 2019*
Recruitment Chair & Web Designer