

Kai E. Burkholder

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EDUCATION

University of San Francisco, Bachelor of Science

Major: Computer Science Minor: Mathematics GPA: 4.0

Expected Graduation: May 2022

<Relevant Coursework>

- Software Development (Graduate Level) , Computer Architecture
- Data Structure & Algorithms, C and Systems
- Cloud Computing / Data Processing in Cloud

WORK EXPERIENCE

- ❖ **Undergraduate Research Fellow**, Lehigh University, PA May 2020 – May 2021
 - Worked to publish a research paper; “*Certification and Trade-off of Multiple Fairness Criteria in Graph-based Spam Detection*” as one of the first author. Currently under review for CIKM 2021.
 - Implemented Multi-Objective-Optimization Algorithm for GNN (Graph Neural Networks) with PyTorch.
 - Constructed multiple fairness metrics to measure discrepant spammer detection results for GNN.
 - Developed software in python that decreases the accuracy of Graph-based spam detection.
- ❖ **Computer Architecture Teaching Assistant**, University of San Francisco, CA August 2020 – Present
 - Hosted weekly lab hours to answer student questions about class concepts and assist with assignments and grading. Analyzed student code and assessing functionality and design of software written in C and ARM Assembly.
- ❖ **Java Teaching Assistant**, University of San Francisco, CA January 2020 – May 2020
 - Held office hours to answer student’s questions and assist with their Java programming projects.
 - Graded Java programming projects. Assisted the professor during class time and lab hours.
- ❖ **Quality Assurance Intern**, iWallet, CA September 2019 – January 2020
 - Helped merchants to implement a mobile payment system powered by iWallet.

PROJECTS

- ❖ **Intern Info Sharing Web App**
 - Full-Stack web app written in Python and JavaScript where users can post their internship offerings. Used Django Rest Framework and SQLite on the backend. Used React.js on the front end.
- ❖ **Tutorial Posting Web App**
 - Serverless web app that lets people to post short tutorials on various topics. Backend is built with AWS Lambda (using Node.js) and AWS API Gateway. DynamoDB for the database. Used React.js for the frontend. User authentication with AWS Cognito and OAuth2.
- ❖ **GCP Data-Pipeline for App Data Analysis**
 - Data pipeline to analyze large number of device-activities to compute app-sales-summary and user-data on cloud using map reduce framework and store the results in data warehouse. Constructed using Java Beam SDK, GCP Dataflow, GCP BigQuery.
- ❖ **SF Hotel Finder/Review App**
 - Full Stack web app with; search function for hotels in San Francisco, post/review comments, edit/delete own comments, display hotel location on google map, user authentication. Developed with Jetty (Java Web Server), MySQL, Velocity (Java Template Engine), JavaScript, HTML, CSS

SKILLS

- ❖ Web Development, REST-API, Machine learning, Neural Networks.
- ❖ Programming Languages: Python, Java, JavaScript (and Node.js), MySQL, C, HTML, and CSS,
- ❖ Frameworks / Tools : AWS (Lambda, Kinesis, S3, API Gateway, Cognito, DynamoDB) , GCP Dataflow, BigQuery, Django-REST-Framework, Django, React.js, PyTorch, JUnit.

Community

Women in Tech, Association of Computing Machinery, Pi Mu Epsilon (National Honorary Math Society)