

WOOHYUN MICHAEL JO

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EDUCATION

B.A. Computer Science | University of California, Berkeley

Graduation Term: Fall 2023

GPA: 3.9 / 4.0

Relevant Coursework | Computer Programs, Computer Security, Data Ethics, Data Structures, Discrete Mathematics & Probability Theory, Database Systems, Machine Structures, Artificial Intelligence, Information Devices & Systems, Machine Learning, Algorithms & Intractable Problems, Operating Systems, Software Engineering, Blockchain & Cryptocurrency, Web Development

SKILLS

Python, Java, C/C++, Go, SQL, Hive, ClickHouse, HTML/CSS, JavaScript, Django/Jinja, Docker, Jenkins, Swift, x86 MIPS, Lisp

WORK EXPERIENCE

TIKTOK | Software Engineer Intern (Account Integrity)

May — August 2023

ML & Data Engineering: Risk Data Mining — SQL, Apache Hive, Clickhouse, Python, Go, JS

- Created a standalone web-registration fraud defense pipeline; streamlined fake account firefighting by automating offline cluster perception.
- Implemented a CatBoost-RF model into TikTok's internal visualization pipeline (Aeolus), introducing a new method to visualize cluster-specific risk parameters (GINI importance) under static DB constraints.
- Created an efficient data query framework; 3-4x faster hive data queries for adversarial account analysis on TikTok's mobile applications.
- Engineered a new API integration procedure to automate DDL/Integration tasks across databases.

PROOFPOINT | Software Engineer Intern (Cloudmark)

January — May 2023

Backend: Infrastructure and Systems — Java, Python, Docker, Jenkins, Unix

- Automated pipeline deployment approvals for Cloudmark Gateway (Proofpoint's e-mail threat detection software) by developing a Python script that integrates JFrog Artifactory and Jenkins, removing manual workload in development operations.
- Created a JZON report format for smoke tests with relevant metrics (global counts, critical tests, OS, etc.) to formalize and implement rules for build defect analysis.

TIKTOK | Software Engineer Intern (Anti-spam)

May — August 2022

Data Engineering: Risk Data Mining — SQL, Apache Hive, Python, Pandas DataFrames

- Engineered empirical evaluation metrics to improve antispam precision, eliminate resource waste, and identify faulty rules in TikTok's rule-based business risk detection system.
- Developed a mathematical SOP for batch rule retirement to reduce manual workload for fraud detection tool maintenance.

FASOO | Software Engineer Intern (Web Security)

June — August 2021

Full Stack: Development Operations — Python, Flask, MySQL, HTML5/CSS, JS

- Developed an intentionally vulnerable Flask application (PyFlaGoat) to test, improve, and update Sparrow, an internal S/DAST testing engine.
- Integrated an eminent defense portfolio in Sparrow SAST; deployed a securing mechanism to remediate obfuscated OWASP 10 vulnerabilities in PyFlaGoat that are not detectable using alternative applications (e.g. Sonarcube).

PROJECTS

AccuLimit | git.io/J1kEB

August 2021

Personal Project • Python

- Created a Darwin application that protects the host's battery health by modifying the root SMC and limiting the maximum battery charge.

Genie Music Scrapper | git.io/J1kEV

July 2021

Personal Project (Browser Extension) • JS

- Implemented a browser extension that executes JavaScript commands to compile Genie Music playlists into classified plain text lists.

Gitlet | git.io/J1kEA

March 2021 — April 2021

Course Project (CS 61B: Data Structures) • Java

- Implemented a version-control system that employs hashed file serialization to mimic some of the basic features of the popular system Git.

RECOGNITION

UPE Computer Science Honor Society | Inductee

September 2021 — Present