MICHAEL JO

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EDUCATION

University of California, Berkeley — Graduating in May 2024
Bachelor's, Computer Science — *UPE Inductee, GPA: 3.85*

Relevant Coursework: *Algorithms, Artificial Intelligence, Computer Security, Cryptography, Data Structures, Database Systems, Information Systems, Machine Learning, Machine Structures, Operating Systems, Probability Theory*

WORK EXPERIENCE

TIKTOK — May — August 2023
Software Engineer Intern, Backend *(Account Integrity)* — *San Jose, CA*

- Proposed and created an automated analysis tool of fake account clusters by chaining microservices via RPCs, which reduced manual firefighting tasks of data scientists in Account Integrity by 50%.
- Designed and implemented a fraud detection system against web registrations, identifying ~100,000 previously unaddressed fake accounts daily.
- Optimized data retrieval operations, achieving a 300-400% faster turnaround for hive data queries from hourly antispam tables.
- Documented and presented the Dorado API microservice documentation and use cases to TikTok's Business Risk Integrated Control department.

Stack: *Go, Python, Dorado, YAML, SQL (Hive, Clickhouse), ML (Catboost, Notebook)*

PROOFPOINT — January — May 2023
Software Demolition Engineer Intern, Backend *(Cloudmark DevOps)* — *Sunnyvale, CA*

- Initiated and executed the automation of Cloudmark Gateway deployment, streamlining DevOps procedures to reduce manual setup time by 40%.
- Independently designed a new JZON report format for Cloudmark's smoke testing defect insights, improving build analysis coverage by 2-3x.
- Collaborated with DevOps and QA teams to refine deployment strategies, ensuring CI/CD pipeline transitions with JFrog Artifactory and Jenkins Integration.

Stack: *C/C++, Python, Docker, Artifactory, Jenkins*

TIKTOK — May — August 2022
Software Engineer Intern, Risk Data Mining *(Antispam)* — *Mountain View, CA*

- Developed evaluation metrics to optimize core risk detection systems by removing or merging ineffective rules, reducing rule processing resources of antispam algorithms by 70%.
- Formulated a mathematical standard operating procedure (SOP) for automating the retirement of outdated rules in the knowledge base, eliminating the need for retroactive analysis.

Stack: *Python, SQL, NIST Frameworks, Data Manipulation (Pandas, NumPy)*

FASOO — June — August 2021
Software Engineer Intern, Backend *(Security)* — *Seoul, South Korea*

- Created a deliberately insecure flask application (i.e. webgoat) to test and enhance Sparrow, a static/dynamic application security testing solution.
- Augmented Sparrow's static application security testing (SAST) suite with new ground truths, mitigating 90% of obfuscated OWASP 10 security risks in flask webgoat beyond the detection scope of external tools like SonarQube.
- Conducted penetration testing to uncover and fix critical flaws in Sparrow's defenses.

Stack: *Python, JavaScript, Flask, Django*

PROJECTS & ACTIVITIES

ACCULIMIT — August 2021
Personal Project *(Executable)* — *git.io/J1kEB*

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

Stack: *C, Python, x86*

RA-ON — September 2021 — Present
Rock Band *(Lead Guitarist & Sound Engineer)* — *youtube.com/@raonucberkeley*

- Advanced Ra-On's technical and artistic reach as lead guitarist and sound engineer, directing studio projects, gigs, concerts, and production.

LANGUAGES & FRAMEWORKS

C/C++, Python, Java, Go, Rust, Ruby, SQL, HTML/CSS, JavaScript, Containerization & Orchestration (Docker, Kubernetes), Risk Management Frameworks (NIST, ISO 27001), Cloud Computing (AWS, Azure, GCP), Cryptography, AI & ML for S/DAST