

Enoch Chigbu

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EXPERIENCE

Google

April 25' - Present | New York City, NY

Software Engineer | *Privacy Sandbox - Java, Python, C++, Bash, Docker, AWS, GCP*

- Created privacy-preserving advertising APIs (measurement, auctioning, model training) for Chrome and Android
- Designed and implemented secure cross-VM communication between **GCP Confidential VMs** and **AWS Nitro Enclaves**, enabling distributed processing with Privacy Sandbox APIs to scale ad measurement and model training
- Developed a solution to trigger ETL jobs on **Apache Spark** using GCP Pub Sub, Cloud Run, and Confidential VMs
- Delivered private impression tracking on Android, **retaining 95% accuracy** compared to traditional methods
- Implemented privacy-preserving technologies like **mTLS**, **HPKE**, **attestation**, and **differential privacy**

Google

May '24 - Aug '24 | Seattle, WA

Software Engineering Intern - *Java, Bash, Protobuf*

- Optimized the Android advertisement selection process by implementing seller-defined payload size limits
- Enabled advertisement buyers to assign priority values to their audience data for more relevant user targeting
- Ensured a 90% utilization rate for total compressed payload size given uncompressed advertisement audience data
- Utilized a heuristic approach to estimate compressed data sizes with 80% accuracy, providing size predictions 3x faster than traditional compression techniques
- Wrote custom bash scripts to measure **end-to-end latency** for the Android advertisement selection process, improving the advertisement selection process by 15% when compared to previous implementation
- Devised a plan to train a **machine learning model** to further optimize compression when future data is collected
- Developed open-source APIs for the Android Privacy Sandbox initiative, enabling privacy-preserving **ad targeting**.

Google

May '23 - Aug '23 | New York City, NY

Student Training In Engineering Intern - *Angular, Dart, Java, SQL, Protobuf*

- Executed full stack web development, utilizing AngularDart, HTML, and CSS for the frontend, and Java for the backend for two projects (wrote design and launch documents, implemented unit and integration testing)
- Implemented a custom date range selector for a live graph within Google Ads Insights, aligning with a new product-wide design overhaul, with new features reaching 100k+ users in a 7-day window post-launch
- Added six new audience reporting groups within the advertisement insights section, giving millions of advertisers more information about their advertiser performance among specific user demographics

EDUCATION

San Diego State University

Aug '21 - Dec '24

Bachelor of Science, Computer Science with Minor in Mathematics

GPA : 3.5

Coursework: Data Structures, Algorithms, Operating Systems, Networks, Machine Learning, Software Engineering, Unix Systems, Technical Writing, Abstract Algebra, Discrete Mathematics, Applied Probability

SKILLS

Languages: Java, Python, C++, C, Dart, Bash, Typescript, SQL, Rust

Technologies: GCP, AWS, React, Angular, Git, Docker, Kubernetes, Flask, Unix, Bazel, Terraform, Apache Spark

LEADERSHIP & INVOLVEMENT

CyberSecurity Organization | *President (2024), Technical Lead (2023-24)*

Aug '23 - Dec '24

- Hosted bi-weekly meetings, teaching students about the basics of cybersecurity with Python and Colab
- Developed the club's website sdsucyb.org as the main hub for member updates (AWS, HTML, CSS)

Quantum Computing Club | *Technical Lead*

Aug '23 - Dec '24

PROJECTS

Multi-Platform Network and System Infrastructure - *Bash, Python, C*

- Built a multi-platform business network using OpenBSD, FreeBSD, Ubuntu, AIX, Solaris, and AlmaLinux.
- Deployed key services including DNS, OpenLDAP, mail, NFS, and Docker-based web hosting (Nginx, Portainer).
- Configured secure SSH connections and implemented strong network security measures across virtual machines
- Configured a GitLab server using Azure and a backup hosting server with ESXi for cloud and backup management