Balawal Chaudry

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WORK EXPERIENCE

Gilder Gagnon Howe & Co. LLC — **New York, New York**
Software Engineer Intern — *July 2023-November 2023*

- Part of a **Wall Street** investment firm's **data visualization team**, collaborated closely with analysts to craft **dynamic solutions**, empowering clients in automating **business workflows**, encompassing trade management, allocation, compliance, position management and modeling.
- Employed **Salesforce** to enhance **client portfolio management**, creating geospatial insight through **heat-maps** and implementing interactive client informational dashboards through Salesforce **Lightning**.
- Effectively managed **critical client information** by leveraging **AWS Glue** and **Pyspark** (Python libraries, including **Pandas**) scripts to securely automate the processing and ingestion of daily **SEC** and **NFS** files from **S3** into **Redshift**, while ensuring efficient schema design using **SQL**.
- Defined **Lambda functions** that executed core business logic, configured with specific **IAM roles/policies** ensuring secure and granular access to AWS resources.
- Orchestrate the execution of Glue jobs upon file arrival in S3, followed by real time **Slack notifications** for job status updates through **EventBridge** rules, targeting **Lambda** functions.
- Developed a **Slack Bot** using multiple AWS services (**API Gateway**, Lambda, Eventbridge) and third-party APIs (**Tableau**, **Box**) to **reduce licensing costs** and streamline report generation through **simple commands**.
- Implemented a no-SQL database using **DynamoDB** to track Glue job statuses, resulting in organized notifications for efficient **monitoring**.
- Utilized **AWS CDK** to provision and manage infrastructure for AWS services using the **.NET framework.**
- Contributed to the enhancement of system reliability and performance by **refactoring** code, **re-designing** infrastructure and **debugging/monitoring** logs through **CloudWatch.**

PoolUp — **Costa Mesa, CA**
Software Engineer Intern — *February 2023- June 2023*

- Core member of the **mobile app development startup** team focused on transforming **city-to-city rideshare** for college students in California.
- Utilizing the **Flutter framework** to develop a cross native mobile application for iOS/Android devices.
- Designed and developed a user-friendly interface for the rideshare application, including features such as real-time ride tracking, driver ratings, ride history, and multiple payment options.
- Implemented the backend using **Firebase** as an efficient solution for scalability and security, seamlessly integrating **Javascript** for API utilization through the **Flutter SDK.**
- Integrate **third-party services** such as **Stripe** and **Venmo** for payment, Google Maps for navigation, **SheerID** for student verification, and **Twilio** to notify users via text/email.
- Participate in **code refactor** to improve code maintainability and enforce best practices, including troubleshooting and resolving critical bugs.
- Collaborate closely with product managers and **UI/UX designers** to address and iterate on customer feedback.

NASA — **Goddard Institute for Space Studies, New York, New York**
Software Engineer Intern — *June 2022- September 2022*

- Working alongside Dr. Matteo Ottaviani, helped deploy code to NASA's upcoming **PACE (Plankton, Aerosol, Cloud, Ocean Ecosystem) mission** in 2024, aiding in improving climate models and supporting environmental decision making.
- Optimized and developed an **advanced retrieval scheme** to detect oil on ocean surfaces, by implementing built-in **Pythonic** methods, drivers, and functions, with additional implementation such as error checks, file converters and command line flags providing more functionality.
- Constructed a powerful, newly acquired NASA GISS server with upwards of **256 CPU cores**, capable of extensive computational capabilities to facilitate the execution of **machine learning models** to accelerate response-times in detecting and monitoring oil spills.
- Successfully producing a look up table spanning **tens of thousands** of files, serving as the dataset for machine learning training.
- Computed **F-statistics** on the dataset to gain valuable insights on the **sensitivity of ocean parameters** and understand underlying data patterns.

New York City Department of Transportation — **New York, New York**
Software Engineer Intern — *February 2022- May 2022*

- Utilizing **LiDAR** technology, created a **convolutional neural network** (CNN) to search for and identify DOT assets on NYC streets such as stop signs, streetlights, fire hydrants.
- Successfully detected street assets, allowing for a quicker response by the DOT to improve damaged infrastructure and maintain **public safety.**
- Built **leadership** skills with top engineers by mapping out a clear project scope, deliverables, and business plan to present to stakeholders.

PROJECT(S)

Simply Halal

- Utilizing the **Flutter framework**, developed a cross-mobile platform that filters and locates nearby halal restaurants.
- Parsing the **Yelp API** for information on restaurants and storing in a local database, with a home screen of the **top 10** closest restaurants.
- Provides users with a **map feature** for real time locations and options to explore, along with a **search feature** to specify results

Today In History

- Developed a cross-platform mobile application using **React Native**, delivering **daily notable historical events**, births, and deaths to users.
- Integrated the **Wikipedia API**, to offer **multi-language support** to enhance user engagement and foster a deeper understanding of world history

EDUCATION

CUNY Hunter College — **New York, New York**
BA Computer Science (GPA: 3.65, Cum Laude, Departmental Honors) — *Graduation: 2023*

- **Coursework:** Data Structures & Algorithms, Object Oriented Programming, Operating Systems, Computer Architecture, Discrete Structures Calculus I, Calculus II, Matrix Algebra, Advanced Statistics

SKILLS

- **Programming**: Python, C#, C++, Dart, JavaScript, Typescript, SQL, R
- **Technologies:** AWS, ASP.NET, Flutter, React Native, Tableau, Salesforce, VS Code, Xcode, Jira, Github, Firebase, PostgreSQL, Linux