

# Ivan Chowdhury

New York, NY • [ichowdhury.dev@gmail.com](mailto:ichowdhury.dev@gmail.com) • (347)-257-0560  
[github.com/IChowdhury01](https://github.com/IChowdhury01) • [ichowdhury.me](https://ichowdhury.me) • [linkedin.com/in/IChowdhury01](https://linkedin.com/in/IChowdhury01)

## Skills

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**Languages:** Java, Kotlin, Python, JavaScript/HTML/CSS, TypeScript, SQL

**Technologies:** Git, Docker, Spring Boot, React, Redux, PostgreSQL, MySQL, Maven

**Other:** Agile Development, REST APIs, Unit Testing, Continuous Integration & Deployment (CI/CD)

## Work Experience

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**Full Stack Software Engineer (Contract)** JPMorgan Chase Sep 2021 — Present

- Developed microservices for digitalizing American depository receipts and regulating contract terms, payments, and contributions, using Java, Kotlin, Javascript, TypeScript, SQL, React, Redux, and Spring Boot
- Overhauled entire end-to-end system for creating and modifying digital contracts—writing new API calls, UI components, and SQL queries—to introduce major features requested by end users
- Remediated static and open-source software vulnerabilities, reducing security issues in new releases by 70%
- Employed unit testing with JUnit and Mockito, API integration testing with Postman, and UI automation testing with Cucumber, increasing code coverage across the app by 30%
- Managed deployment of new releases using a CI/CD pipeline, and monitored production systems using AWS, Kubernetes, Splunk, and Datadog
- Experimented with quantum natural language processing as a means to understand sentences in contract engagement letters, using a syntax-based classification model built in Python
- Integrated agile methodologies into teamwide workflow, with regular sprints, story point estimations, and retrospectives

## Projects

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**itsMe: Attachable Smart Lock** [git.io/JRHkt](https://git.io/JRHkt)

- Led a team of 4 to invent a low-cost smart lock that installs seamlessly by latching onto doors, allowing tenants, apartment owners, and moving homeowners to reuse it frequently without renovation costs
- Developed an Android app in Java for remote control and monitoring of the smart lock
- Programmed a Raspberry Pi in Python for Bluetooth Low Energy request handling and high-precision servo rotation
- Published an open-source design that could be customized, 3D-printed, and assembled at 30% of the cost of industry smart locks, and was evaluated positively by over 100 undergraduates, faculty, and visitors

**NutriDiary: Adaptive Nutrition Tracker** [git.io/JB1YV](https://git.io/JB1YV)

- Developed a full-stack web application that logs nutritional data, and uses it to compute personalized calorie and protein intake recommendations that adapt to gain accuracy over time, helping users meet their weight loss or muscle gain goals
- Implemented a REST API with Java and Spring Boot, to interface with a PostgreSQL database

**Movie Review Sentiment Analyzer** [git.io/JRHIt](https://git.io/JRHIt)

- Built a recurrent neural network (RNN) in Python that performs sentiment analysis on movie reviews; users may input a movie review, and the neural network will predict whether it has a positive or negative sentiment
- Applied TensorFlow and Keras to train the RNN on a dataset of 50,000 IMDb movie reviews, achieving a prediction accuracy rate of 93.54%

**MATCH: Social Networking Platform** [git.io/JRHIE](https://git.io/JRHIE)

- Collaborated with a team of 4 to develop a full-stack web application for a social network that matches users to local friends with common interests
- Implemented a web chat in JavaScript, and interfaced with a MySQL database using Java and JDBC

## Education

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**The Cooper Union for the Advancement of Science and Art**, New York, NY Sep 2016 — May 2020

Bachelor of Engineering in Electrical Engineering, specialization in Computer Engineering