

# Yaacob Abdullah

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## EDUCATION

### CUNY Queens College

Bachelor of Science in Computer Science

New York, NY

Expected December 2025

**Relevant Courses:** Data Structures and Algorithms, Object Oriented Programming, Web and Internet Technologies

## TECHNICAL EXPERIENCE

### Truebird

New York, NY

Software Engineer Intern - (Node-RED, JavaScript, SQLite, React, Node.js, XState, MQTT)

May 2024 - August 2024

- Led development of a business intelligence dashboard by engineering **JavaScript** functions for processing historical transaction data, enabling precise tracking and visualization of customer activity, engagement, and habits.
- Utilized **Node-RED** and the **MQTT** protocol to construct dynamic charts, tables, and summaries, allowing upper management to view internal data with a clear and intuitive dashboard interface, improving operational insights.
- Crafted and optimized SQL queries to manage large datasets within **SQLite**, improving data access processing.
- Engineered frontend animations and implemented backend API's, using **React**, **Node.js** and **XState**, filling team gaps and doubled deployment rate.

### Open Avenues

New York, NY

Software Engineer Intern - *QuickNode (Solidity, Node.js, ChainLink VRF, Chai, Hardhat)*

February 2024 - May 2024

- Spearheaded the development of a decentralized finance platform, utilizing **Solidity** smart contracts and **JavaScript** to enable secure, scalable, and high-performance blockchain transactions.
- Integrated **Ethereum Nodes** for scalable blockchain data retrieval, to facilitate real-time data interaction and smart contract deployment.
- Leveraged **ChainLink VRF** and the **SHA-256** hash to ensure random winner selection and data integrity, to facilitate secure Ether transactions and support commitment schemes.
- Authored **unit tests** using **Chai** assertions and the **HardHat** framework for blockchain environment simulation.

### CUNY Tech Prep

New York, NY

Data Science Fellow

August 2024 – Present

- Selected as one of **100** students from **400+** applicants for a data science fellowship, collaborating with peers from 11 senior colleges to create technical projects using Python, Jupyter Notebook, Scikit-learn, Pandas and Numpy.
- Developed and deployed **predictive ML models** while mastering exploratory data analysis, feature engineering, statistical modeling, and machine learning techniques.

## PROJECTS

**AI Travel Assistant** - (Python, TensorFlow/Keras, NLTK, Numpy, Pandas, Tkinter)

August 2024

- Built and trained an LSTM neural network using **TensorFlow/Keras** to predict hotel ratings based on customer reviews, optimizing the model with custom tokenization and embedding layers using **NLTK** for text preprocessing.
- Developed a text preprocessing pipeline using **NLTK** and **Pandas** that increased model training efficiency by 25%, utilizing tokenization, lemmatization, and sequence padding with **NumPy** to handle **26,000+** customer reviews.
- Integrated embedding layers to understand contextual relationships in customer reviews, leveraging **NLTK** for advanced text processing, leading to more accurate sentiment predictions.
- Utilized dropout regularization to prevent overfitting, improving the model's ability to generalize to unseen data, and implemented a **Tkinter**-based GUI for interactive model testing.

**Read Me a Story** - (OAuth 2.0, Node.js, Anthropic AI API, Google Text to Speech API)

May 2024

- Developed at **Node.js** server to create a web application that generates AI-driven bedtime stories from user prompts and reads them to the user using Google Cloud Text-to-Speech API and Anthropic AI API.
- Implemented **JWT** based authentication and **OAuth 2.0** for secure access to Google Cloud services, ensuring data integrity and security in API communications.

## TECHNICAL SKILLS

**Languages:** TypeScript, JavaScript, HTML/CSS, Python, Java, C++, SQL, Solidity

**Frameworks and libraries:** React, Node.js, XState, MQTT, Express.js, Tailwind.css, Next.js, Pandas, Numpy, Scikit-learn

**Developer Tools:** Git, VS Code, Visual Studio, Eclipse. Microsoft Office, Remix, Postman, Node-Red, Jupyter Notebooks