ZECHENG ZHANG

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EDUCATION

Master of Computer Science, New York University, GPA: 4.0/4.0 Expected May 2023
Relevant Coursework: Algorithms and Data Structure, Database Systems, Computer Networking, Machine Learning, Algorithmic Machine Learning at Large Scale, Cloud Computing, Big Data, Computer Vision, Object Oriented Programming

Bachelor of Mathematics, The Chinese University of Hong Kong GPA: 3.84/4.0 2017 - 2021

TECHNICAL SKILLS

Programming languages	Python, Java, C++, JavaScript
Database	MySQL, PostgreSQL, SQLite, MongoDB, RDS, DynamoDB
Frameworks and Libraries:	React, Django, Express, PyTorch, TensorFlow, Scikit-learn
Development tools:	Git, Linux, Elasticsearch, Kubernetes, AWS (EC2, S3, API Gateway, Lambda, ECR, ECS)

EXPERIENCE

Software Engineering Intern **May 2021- July 2021**
HireBeat *New York, NY*

- Implemented a data visualization tool using the Google Maps Platform API and React to visualize monthly job openings data across 50 states in the United States. Developed frontend components for the tool and implemented conditional rendering to allow users to switch between different data sets
- Developed and implemented a machine learning model to predict customer churn using Python and scikit-learn. Cleaned and preprocessed data using pandas, and trained and evaluated the model using cross-validation techniques. Achieved an accuracy of 85% and reduced churn by 7% over a 2-month period.
- Collaborated with the marketing team to advise on search engine optimization, organic search improvement, and pay-per-click optimization, resulting in a 12% increase in web traffic

PROJECTS

NYU Rental Marketplace (React, Python, AWS) **Oct 2022-Dec 2022**

- Integrated Apartments.com API to retrieve over 4,000 rental listings, stored data in Amazon DynamoDB, and used AWS OpenSearch to enable efficient data querying.
- Implemented a sublease function using relational database RDS and SQL queries that resulted in approximately 80 subleases being listed on the platform and utilized AWS S3 to enable users to upload sublease listings.
- Utilized AWS Lex to enable an AI agent to recommend rentals to users, resulting in increased user engagement and a 21.1% increase in user activity.
- Enabled CI/CD using AWS CloudFormation and AWS CodePipeline, streamlining the deployment process and enabling faster delivery of updates and new features.
- Managed a team of four developers and coordinated project delivery to ensure timely completion. Achieved notable success, with over 110 active users and 30% monthly user growth.

Cosmetics Discount Website (JavaScript, Node.js, Express, NoSQL, MongoDB) **Jan 2022-Feb 2022**

- Built a website from scratch using Express that tracks historical price information of over a hundred cosmetics products, allowing users to view, comment, and submit updates on the latest price drops.
- Designed a database schema with MongoDB and wrote 10+ RESTful APIs that support administrators to add, delete, and edit products and allow users to view and comment on products, upload images, and submit price updates.
- Coded an authorization middleware to give users access to editing or deleting product information and utilized validation middleware (JOI) to guard against unprivileged access and authentication middleware (Passport) to support user login.
- Deployed the website on the Salesforce Heroku cloud platform and stored the database on MongoDB Cloud.

Online Chat Desktop App (Java, MySQL, JDBC) **Nov 2021-Dec 2021**

- Developed a comprehensive online chatting software featuring user registration, login, real-time online status tracking, and message notification capabilities.
- Utilized MySQL and JDBC prepared statements to implement secure and efficient user management.
- Implemented a multi-threaded server through socket programming techniques, allowing multiple users to connect and communicate in real-time.
- Utilized object-oriented programming concepts and design patterns to structure and organize the codebase, resulting in a 20% reduction in development time compared to traditional approaches.