

Kunal Makwana

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Education

Dalhousie University

Expected Dec 2024

Masters in Applied Computer Science (GPA: 3.98 / 4.30)

Halifax, Nova Scotia

- **Relevant Coursework:** Data Management and Warehousing Analytics (SQL), Advanced Topics in Web Development, Serverless Data Processing, Advanced topics in Cloud Computing, Recommender Systems, Advanced Topics in Software Development (Java & OOP), Advanced Cloud Architecting, Advanced Topics in Network Security

Technical Skills

Languages: Python, Java, C++, C, JavaScript, C#, SQL

Cloud: Amazon Web Services, GKE, Ansible, Terraform, IAM, IaC, Jenkins, CI/CD, AWS Lambda, SaaS

Tools: Selenium, Spark, Kubernetes, Docker, Jira, Kafka, SonarQube, Redis, Git

Front End Technologies: HTML, CSS, Tailwind CSS, Material UI, React

Back End Technologies: Spring Boot (Java), Node.js, Express.js, JWT, RESTful API, JUnit (Automated Testing)

Databases: MongoDB, MySQL, NoSQL

Data Structures & Algorithms: Binary Search, Dynamic Programming, Graphs, Trees, Recursion, Backtracking

Soft Skills: Communication, Problem-Solving, Collaboration

Experience

Scaler Academy

Nov 2021 – Present

Machine Learning Teaching Assistant (Freelance - Part Time)

Remote

- Led educational workshops through hands-on coding sessions using TensorFlow, PyTorch, scikit-learn (sklearn), and Keras, empowering 500+ students with practical machine learning skills.
- Guided students through real-world machine learning projects, resulting in a 25% increase in project completion rates and positive feedback from participants.
- Skills: Machine Learning, Keras, TensorFlow, LSTM, Numpy, Deep Learning, Data Visualization, Pandas, Transformers, Documentation.

Dalhousie University

Sep 2023 – Dec 2023

Data Structures Teaching Assistant

Halifax, Nova Scotia

- Mentored over 100 students, enhancing understanding and application of data structures and algorithms, resulting in a 20% increase in student assignment scores.
- Improved student code quality by implementing comprehensive code review processes, reducing errors by 30% and fostering better software development practices.
- Skills: Competitive Programming, Debugging, Trees, Graphs, Linkedlist, Recursion, OOP, Unit Testing.

Sava Info Systems

Jul 2022 – Jul 2023

Software Developer

Halifax, Nova Scotia

- Architected scalable backend systems with Java, Spring Framework, and Node.js, boosting application performance by 30%, resulting in enhanced user experience and increased customer satisfaction.
- Collaborated with cross-functional teams to deliver high-quality code for large-scale projects, contributing to a 15% increase in project completion efficiency.
- Identified and resolved vulnerabilities in legacy code, leading to a 20% reduction in system failures and improved overall system reliability.
- Tech Stack: Java, Spring Boot, Node.js, MongoDB, MySQL, Express.js, Rest API, JUnit, Jenkins, GitHub, AWS.

IBM

Jan 2022 – Jul 2022

Software Engineering Intern

Bangalore, India

- Developed Cloud Object Storage Importer module, optimizing tenant validation for shared files, resulting in a 25% reduction in data processing time.
- Implemented Java scheduler job to update ingestion status in GraphQL and Elastic search, improving data tracking accuracy by 20%.
- Tech Stack: Elasticsearch, Kubernetes, SpringBoot, Java, Swagger, Jenkins, GitHub, IBM Cloud, GraphQL, JFrog Artifactory, Agile (Scrum).

- Automated question extraction with BeautifulSoup and Selenium, cutting acquisition time by 60%, and improving data accuracy.
- Build a Word2Vec model for question similarity, boosting accuracy by 30%, halving manual effort, and enhancing productivity for analysis.

Projects

EduHub | *Java, Node.js, React.js, MongoDB, ZegoCloud, AWS S3, Microservices, Spring Boot, Express.js, Maven*

- Crafted a learning management system, utilizing a microservices architecture with React.js for the frontend and Node.js and Java for the backend.
- Implemented a dynamic assessment system with a question bank creation feature and collaborative Q&A community for students and professors.
- Integrated webinar hosting capabilities and professor blog features for interactive sessions and updates between professors and students.

Quora Question pair similarity model | *Python, Numpy, Pandas, spaCy, scikit-learn, NLP, Seaborn*

- Developed a context classification model using a variety of machine learning algorithms, including Logistic Regression, Naive Bayes, Linear SVM, XGBoost, Random Forest, and Extra Tree Classifier.
- Leveraged spaCy's GloVe pre-trained embedding vectors to transform words into vectors for robust feature representation.
- Conducted extensive feature engineering, calibration, and hyperparameter tuning techniques to optimize model performance.

MealMate | *Java, Android, Firebase, SonarQube, CI/CD, Android Studio, Gradle, Test Driven Development*

- Designed MealMate, an Android mobile app that simplifies meal planning and management, streamlining the user's daily culinary experience.
- Integrated a dynamic next-week meal and grocery planner, enabling users to plan their weekly meals and generate optimized shopping lists.
- Developed an ingredient-based meal recommendation feature, generating personalized options based on the user's available ingredients.

Automated DevOps Pipeline Orchestrator | *Docker, Kubernetes, Jenkins, Ansible, Terraform, Helm, Prometheus, JFrog*

- Engineered a DevOps ecosystem, driving a dynamic CI/CD pipeline to enhance software delivery efficiency and reliability.
- Orchestrated infrastructure provisioning with Terraform and Ansible, seamlessly integrating with Jenkins for automated CI/CD.
- Deployed application to Kubernetes clusters using Helm charts and established monitoring and alerting solutions with Prometheus and Grafana.
- Improved code quality by implementing SonarQube analysis, resulting in a 30% reduction in code defects and vulnerabilities.

SecureStreet | *React.js, Node.js, Python, AWS Rekognition, AWS Textract, AWS Lambda, AWS CloudFormation*

- Forged an innovative Crime Reporting System, enabling citizens to report crime occurrences and providing essential details about the crime.
- Implemented advanced facial recognition technology using AWS Rekognition to match uploaded suspect photos with existing criminal records.
- Incorporated AWS Textract for extracting raw text from uploaded FIR document images, facilitating digital registration of FIR information.

Achievements

- Secured 455th Global Rank among 18,000 coders worldwide in Google Kickstart Round H 2020.
- Qualified for the ICPC Regionals round for the Asia West region in the International Collegiate Programming Contest 2021.
- Successfully solved over 700 questions on Data Structures & Algorithms on platforms such as Hackerrank, GeeksForGeeks, Leetcode, and CodeForces.
- Awarded a Gold Medal for outstanding performance during Bachelor's degree studies.