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Margi Shah

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EXPERIENCE

Freelance Web Developer, [Freelance Projects](#)

Jan 2023 — Present

- Worked on various projects involving **ReactJS**, **Node.js**, **MongoDB**, and **Redis**, building scalable web applications and ensured efficient backend communication.
- Created an **Internal Tool for Social Media Management** using **ReactJS** and **Django**, allowing clients to manage posts across multiple platforms, improving team efficiency by 40%.
- Delivered a **Job Portal Web Application**, integrating **MongoDB** and **ReactJS** to build dynamic search features and user interfaces that enhanced user experience and engagement.
- Set up and maintained **CI/CD pipelines with Jenkins**, automating deployment processes and ensuring smooth updates and reliable production releases across various projects.

Teaching Assistant, [University of Ottawa, Ottawa, Canada](#)

Sept 2024 — Present

- Led tutorials for 120 students in *Advanced Programming with C++ (CSI2372)*, simplified complex topics like memory management, pointers, and object-oriented design, resulting in improved assignment performance.
- Mentored students on data structures and algorithms, guiding them in implementing linked lists, binary trees, and sorting algorithms to enhance practical coding skills.

Machine Learning Developer Intern, [Dhyey Technologies](#)

Aug 2023 — April 2024

- Solely led the development and deployment of a medical imaging solution for a client, utilizing **PyTorch** and **TensorFlow** to design and train **Convolutional Neural Networks (CNNs)** for accurate image classification and segmentation tasks.
- Leveraged **OpenCV** for image preprocessing, including noise reduction and image normalization, while utilizing **Keras** to fine-tune models like **U-Net** and **ResNet50** to improve segmentation and object detection in medical scans.
- Implemented an end-to-end pipeline integrating **Scikit-learn** for model evaluation and **Streamlit** for interactive visualization, allowing the client to efficiently assess and monitor model performance on real-time medical images.

Software Developer Intern, [WebBrains Technologies Pvt. Ltd, Vadodara, India](#)

May 2022 — Jul 2022

- Built a scalable and reliable **e-commerce web application** using **Python** and **Django**, optimizing backend performance to support increased user traffic and ensure consistent performance.
- Designed and implemented a comprehensive **online shopping platform** with **HTML**, **CSS**, **JavaScript**, and **Django**, integrating seamless payment processing and user authentication features for an enhanced shopping experience.

EDUCATION

Master of Engineering in Electrical and Computer Engineering, University of Ottawa

Sep 2024 — Present

Bachelor of Technology, Computer Science, Charotar University of Science & Technology, CGPA: 9.65/10.00

Aug 2020 — May 2024

SKILLS

Languages: JavaScript, Python, C++, SQL, HTML, CSS

Libraries/Frameworks: Express, ReactJS, NodeJS, NextJS, Prisma ORM, Tailwind CSS, MongoDB, TensorFlow, PyTorch, Keras, Scikit-learn, Numpy, Pandas, Matplotlib, Seaborn, SciPy, Streamlit, OpenCV, NLTK, Flask, Django, Redis

Cloud/Hosting: AWS (EC2, S3), Heroku

DevOps: Kubernetes, Docker, CI/CD, Jenkins, Git

Other: API Development, Jira, Code Review, SQL/NoSQL Databases, Unit Testing, Agile Methodologies, Published 8+ Research Papers

Certifications: [Web Development Master Class](#) 🏆, [Master in Artificial Intelligence \(AI\)](#) 🏆, [AWS Services for Solutions Architect](#) 🏆

PROJECTS

AWS Content Moderation System (AWS, Python, Node.js, EC2, API Gateway, Lambda, SQS, SNS, DynamoDB, CloudFormation)

- Designed cloud architecture for image uploads, AI-generated tags via AWS Rekognition, and storing labels in an image gallery.
- **Developed batch-processing SQS** for notifications to alert administrators about flagged content, leveraging CloudFormation for seamless Infrastructure as Code (IaC) deployment, ensuring scalable and automated content moderation.

Job Portal Web Application (ReactJS, NodeJS, MongoDB, Shadcdn, Tailwind, React Query, ExpressJS)

- Developed a scalable and responsive job portal using **ReactJS**, **NodeJS**, and **MongoDB**, which handled over **500+ job postings** and **2000+ user registrations** within the first month of launch.
- Integrated content delivery optimization and implemented React Query to improve data fetching efficiency, reducing server requests by 25% and increasing user engagement by 30%.

Emotion-Music-Recommendation (Keras, TensorFlow, Spotipy, Flask, OpenCV)

- Developed an **emotion recognition system** using the FER 2013 dataset, integrated with Spotify's API to recommend music playlists based on detected facial expressions in real-time video feeds, employing **OpenCV** and **Haarcascades** for face detection.
- Developed a Flask web app with a **neumorphism UI**, utilizing Spotipy to fetch music recommendations based on emotions, achieving 66% accuracy after training the model with Keras' ImageDataGenerator.