AGRIMA JAIN

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EDUCATION

Northeastern University | Boston, MA   **Expected Dec 2025**

Master of Science in Information Systems

Coursework**:** Application Engineering, Web Design & User Experience, Object Oriented Design, Network & Cloud Computing

SKILLS

Languages: Python, Java, SQL, JavaScript, HTML, CSS

Frameworks: React.js, Node.js, Express.js, Bootstrap, Tailwind CSS

Databases: Relational (MySQL), NoSQL (MongoDB)

Developer Tools: Git, CI/CD, AWS (VPC, EC2, S3), GitHub, Digital Ocean, JIRA, Terraform, VS Code, Eclipse, Docker

Others: Data Structures, Object Oriented Programming, Redux, Microservices, Agile Methodologies, Communication Protocols

PROFESSIONAL EXPERIENCE

Software Engineer - HappyMonk AI Labs | Bengaluru, IN   **Aug 2022 - Nov 2023**

- Created homepage using HTML, CSS, SCSS, Bootstrap, and integrated React.js to create dynamic, interactive components, resulting in a **15% improvement in page load times and 10% increase in user engagement**
- Spearheaded the development of robust APIs using Node.js, enabling dynamic data flow that empowered the frontend to deliver a more interactive and visually compelling user experience, enhancing the website's functionality and responsiveness
- Developed and implemented a Face Re-Identification model using Leaky ReLU function, extracted 128 facial points for integration with the face detection module, achieving an **18% accuracy improvement and a 12% reduction in false positives**
- Executed activity detection using Convolutional and Recurrent Neural Networks and human identification with YOLOv5 on surveillance camera data, achieving a **96% detection accuracy**
- Supervised a team of 6 interns on a collaborative project, providing technical guidance and ensuring successful delivery within the framework of Agile methodology

Associate Software Engineer - HappyMonk AI Labs | Bengaluru, IN   **Jul 2021 - Jul 2022**

- Deployed license plate detection with YOLOv5 and recognition using OCR, preprocessing 36 characters for model training to achieve **95% accuracy and a 20% speed improvement**, and crafted the user interface with HTML, CSS, and JavaScript
- Engineered a Saree (Women Apparel) Detection System using an AI-based textile convolutional neural network with the Adam optimizer, enhancing the accuracy of saree pattern **identification and classification by 30%**
- Utilized Generative Adversarial Networks (GANs) for image preprocessing, optimizing pixel size to meet requirements and achieving a **30% improvement in image clarity and a 25% increase in resolution accuracy**
- Annotated 50,000 data samples using LabelMe and applied augmentation techniques like rotation and flipping to expand the dataset to 500,000 samples, enhancing diversity and model performance

PROJECTS

ThingsToDo (Event Management Website)

- Built a multi-page MERN stack web app as a part of a collaborative team, delivering a one stop solution for event management with React.js on the frontend and Node.js with MongoDB on the backend
- Architected and implemented RESTful APIs for efficient bookings, user sign-in, sign-up, events listing and query solution
- Used MongoDB, a NoSQL database, achieving a **20% improvement in query speed** while leveraging its flexibility and scalability for future growth

Social Media Website

- Constructed a user-friendly social media website where users can post updates and interact with content, using React.js for the frontend and Bootstrap to develop a mobile-first, responsive user interface
- Applied useContext and useReducer to manage application state, ensuring a clean and to handle complex tasks
- Employed a dummy API for data to facilitate development and testing, ensuring smooth integration with the frontend

Car Lane Change Detection   `

- Designed a lane detection model using image preprocessing, Hough transformation, and edge detection techniques with the SCNN algorithm, on a dataset of 10,000 frames with a frame size of 640x480 pixels
- Achieved 84.28% accuracy for identifying lane boundaries and detecting objects within lanes in road scene videos or images
- Utilized 3D-ResNet50 with separated temporal and spatial convolutions, incorporating LeakyReLU, improve accuracy to 90.2%

LEADERSHIP ACTIVITIES

- **Leadership & Representation:** Elected as a Student Council Member, demonstrating leadership and commitment to student representation
- **Problem Solving & Collaboration:** Conducted brainstorming sessions to develop innovative solutions to complex problems, mentoring young developers