MAINAK MALAY SAHA

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OBJECTIVE

Aspiring Software Engineering with hands-on experience in full-stack web development, interactive UI design, and LMS integration. Skilled in HTML5, CSS, JavaScript, and responsive design, with a strong foundation in accessibility best practices and multimedia optimization. Passionate about building engaging, user-friendly eLearning solutions in cybersecurity.

EDUCATION

Master of Science in Robotics and Autonomous Systems (Artificial Intelligence) **Dec, 25**
Arizona State University, United States 3.71 GPA

- Relevant Coursework: Artificial Intelligence, Real-Time Embedded Systems, Machine Learning Acceleration, Knowledge Representation & Reasoning, Space Robotics & AI, Data Visualization, Distributed systems.

Bachelor of Engineering in Computer Engineering **June, 24**
Terna Engineering College, India 3.3 GPA

TECHNICAL SKILLS

- **Programming Languages:** Python, SQL, C++, JavaScript (React JS, Node.js),TypeScript, MongoDB, Rust.
- **Web & eLearning Development:** HTML5, CSS, JavaScript, SCORM 1.2, SCORM 2004, LMS Integration, Articulate Storyline, Adobe Captivate, iSpring Suite.
- **Software & Tools:** Git, Docker, REST APIs, Azure, AWS (EC2, S3), VS Code.
- **Machine Learning & Data Science:** TensorFlow, PyTorch, Scikit-learn, OpenCV, Pandas, NumPy, MLOps.
- **Visualization & Analytics Tools:** Tableau, Power BI, Matplotlib, Seaborn, Excel (Advanced), Google Data Studio.

EXPERIENCE

Graduate Research Assistant, *ASU Center for Engagement Science – Adidas, ASU.* **May 25 – Present**

- Collaborated with Dr. Aurel Coza on a multidisciplinary project integrating real-time video analytics and motion analysis for enhanced athletic performance feedback.
- Engineered video processing pipelines using Swift and OpenCV to detect and classify human movement patterns in real time supporting future applications in audience engagement analytics.
- Designed and implemented algorithms to extract actionable insights from visual and biometric data, simulating decision models relevant to CTV ad interaction and personalization.
- Worked cross-functionally with UI/UX and data science teams to ensure system performance, usability, and data fidelity in mobile deployment environments.

Data Engineering Intern, *Looqup.AI, Boston, USA.* **Mar 25 – Apr 25**

- Built scalable data pipelines and revenue forecasting models using Holt-Winters and SARIMA, increasing sales prediction accuracy across multiple merchant divisions.
- Performed advanced feature engineering and data preprocessing using Azure Data Studio and Notebooks, enhancing model performance and data pipeline robustness.
- Developed components of an end-to-end MLOps architecture, including model versioning and deployment, using Docker for containerization and CI/CD integration.
- Collaborated with stakeholders to generate actionable insights, enabling improved attribution modeling and campaign performance forecasting aligned with CTV ad strategies.

Full-Stack Developer & Marketing, *The Language Network, India* **Aug, 21 - Dec, 22**

- Designed and developed a full-stack web platform and LMS using React.js, Node.js, and MongoDB, enabling scalable user management and seamless integration with 5+ third-party marketing tools.
- Implemented SEO/SEM strategies using SEMrush and Google Analytics, increasing search engine visibility by 60% and driving over 10 high-value keywords to first-page ranking.
- Built custom dashboards using Salesforce and other analytics tools to monitor user engagement, traffic analytics, and campaign conversion metrics, contributing to a 50% increase in overall site traffic and interaction rates.
- Collaborated cross-functionally with content, marketing, and product teams to optimize platform performance, enhance UI/UX, and support growth marketing initiatives.

PROJECT

Emotion Classification – Distinguishing Excitement and Fear from Physiological Data PRESENT

- Developed ML models to classify biometric signals (heart rate, SPO2) and distinguish between excitement and fear in real time, simulating audience engagement monitoring for CTV environments.
- Applied advanced signal processing for feature extraction and improved classification accuracy using CNN and LSTM architectures.
- Validated models using real-world physiological datasets and optimized for real-time deployment, emphasizing performance and responsiveness.
- Designed interactive visualizations using Matplotlib and Seaborn to represent emotional state transitions, signal patterns, and model performance metrics.