MAINAK MALAY SAHA

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SUMMARY

Graduate student in Robotics and Autonomous Systems with a focus on Artificial Intelligence, currently maintaining a 4.0 GPA at Arizona State University. Skilled in C++, Python, JavaScript, Lingua Franca, and proficient in tools such as SolidWorks, MATLAB, ROS, and AWS. Experienced in full-stack development, business development, and project leadership, with a track record of optimizing search engine visibility, boosting user engagement, and enhancing brand awareness. Successfully completed academic projects in AI-based fraud detection, virtual mouse development using computer vision, and robotics programming for navigation and path planning. Known for strong analytical skills, problem-solving abilities, and collaboration across multidisciplinary teams.

EDUCATION

Master of Science in Robotics and Autonomous Systems (Artificial Intelligence) **May, 26**
Arizona State University, United States 4.0 GPA

- Relevant Coursework: Linear Algebra, Robotics System I, Real-Time Embedded Systems.

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

PROFESSIONAL SKILLS AND CERTIFICATES

- **Tools & OS:** Solid Works, AutoCAD, MATLAB, ROS, AWS, Firebase, Git, Windows, Mac OS, Linux.
- **System/Applications:** Microsoft Office Suite, Google Workspace, Zoom, Canva, Figma, Adobe.
- **Programming Language:** C, C++, Python, React JS, Node JS, MongoDB, JavaScript, Lingua Franca.
- **Certifications:** MATLAB Programming Technique, Data Processing & Visualization.

EXPERIENCE

Marketing & Business Development Intern **Jan, 23 - May,23**
Ukiyo Stays, India.

- Backed marketing initiatives, and reinforced Ukiyo's clientele, resulting in a 20% rise in brand awareness.
- Onboarded more than five stay partners and engaged with over ten client partnerships, all of which helped to build the business.
- Coordinated planning client experiences, led to a 15% increase in client satisfaction; enhanced marketing initiatives to increase interaction.

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

- Developed the website for The Language Network from the bottom up, overseeing the development of the front-end (HTML, CSS, JavaScript, React JS) and back-end (Node.js, MongoDB) components.
- Collaborated with cross-functional teams, leading to a scalable, user-friendly solution integrated with 5+ third-party services and ensuring optimal performance.
- Utilized SEMrush and SEO strategies, resulting in a 60% increase in search engine visibility and a significant improvement in keyword rankings, with 10+ keywords reaching the first page.
- Succeeded in having a 50% increase in website traffic and user engagement, aided in the firm's overall growth.

ACADEMIC PROJECTS

Pololu 3pi + Robot **Present**

- Programmed the Pololu 3pi+ robot using Lunga Franca & C#, achieving 95% accuracy in line-following and maze-solving tasks.
- Implemented path-planning and obstacle-detection algorithms, reducing navigation errors by 40% in complex environments.
- Optimized sensor inputs & motor controls, enhancing real-time response by 20% and minimizing execution delays.
- Demonstrated robotics programming and embedded systems expertise, tested across 3 different maze layouts.

Fraud Detection in UPI Transaction Using AI **April 24**

- Created an adaptive weighted fusion classifier combining Random Forest, Naive Bayes, and SVM to boost fraud detection.
- Incorporated location data tracking to identify anomalous transaction patterns, detecting 80% of geographic inconsistencies in UPI transactions.
- Enhanced fraud detection precision by leveraging location-based insights, reducing false positives by 25%, and improving detection of suspicious activities.

Virtual Mouse **June 24**

- Developed a Virtual Mouse using Python, OpenCV, and MediaPipe for contactless computer control via hand gestures.
- Implemented real-time gesture recognition for mouse movements, clicks, and drag-and-drop, with a response time of 0.5 seconds.
- Designed algorithms to map hand landmarks from video feed into precise mouse actions, revising user interaction efficiency by 30%.