MAINAK MALAY SAHA

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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 and 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%.

LEADERSHIP

Entrepreneurship Cell Secretary,   **Sep, 22 – Aug 23**
Terna Engineering College, India
- Directed the Entrepreneurship Cell, managing a year-long initiative that assisted in scaling 5+ startups, with 20% growth in participant engagement.
- Launched and organized high-impact competitions - Startup Escobar Hunt and Ignite, attracting over 500 participants and securing sponsorships from 10+ industry partners.