Aaditya Sakhardande

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EDUCATION

Arizona State University, Tempe, AZ, USA ***Expected May 2026***
Masters in Robotics and Autonomous Systems (Electrical Engineering)
Mukesh Patel School of Technology Management and Engineering, Mumbai, India ***August 2024***
B.Tech. Major in Electronics and Telecommunication

WORK EXPERIENCE

Full Stack Developer Intern, MaitriAI, Mumbai ***December 2023 - May 2024***

- Trained CNN model reaching 98% accuracy for document identification.
- Enhanced Biometric OCR Software, extracting text with 94% precision from scanned documents.
- Designed and implemented an SQL database to store extracted documents and texts.
- Conceptualized enterprise architecture of LMS platform, enabling creation and management of training programs.
- Built and deployed 12 APIs employing Python libraries such as NumPy, Pytesseract, TensorFlow, and FlaskAPI.

PROJECTS

Hand Gesture Driven Mouse System (Project) ***December 2024 - January 2025***

- Drafted and programmed a real-time hand gesture-based mouse control system using OpenCV, MediaPipe, and PyAutoGUI, delivering 92.4% accuracy.
- Instilled intuitive hand gestures for seamless mouse movement, clicks, and screenshot functionality at 30 FPS.
- Fine-tuned fingertip tracking for precise user interaction and sharpened system performance.

Autonomous Maze Solver using MyCobot Pro 600 (Project) ***August 2024 - December 2024***

- Engineered and built digital twin to simulate forward and inverse kinematics, ensuring precise and efficient navigation.
- Programmed MyCobot Pro 600 to autonomously solve a 4x4 maze, optimizing path planning and obstacle detection.
- Automated and executed a maze-solving algorithm incorporating Python, MATLAB, and SOLIDWORKS, integrating socket programming and image processing for real-time maze recognition.
- Achieved autonomous maze navigation, demonstrating automation, real-time decision-making, and robotics expertise.

Robotic Gait Trainer with Exoskeleton (Research) ***December 2023, Ongoing***

- Led team research on a gait trainer for spinal cord injury patients, analyzing trends over the past 25 years with study of functional models.
- Reviewed trends in development of different practices used in developing 6 optimal models.
- Research on proper brain-computer link to compensate loss of neuron functions.

Implementation of 3D Holograms within 5G framework (Research) ***December 2023, Ongoing***

- Conducted research in collaboration with Reliance JIO Infocomm Limited on live hologram implementation.
- Research undertaken on practical implementation of live holograms.
- Applications of 3D holograms in immersive communication.
- Investigated incorporation of 5G technology in holograms to minimize latency up to 25ms.

Online Canteen Ordering Management System (OCOMAS) ***August 2023 - November 2023***

- Headed formulation web-based application to streamline canteen operations, enabling users to place orders online, manage customizable menus, and track 300+ order statuses in real-time.
- Leveraged HTML, CSS, JavaScript, PHP, MySQL, and XAMPP server for system development, deployment, and maintenance.
- Coordinated designing user interface, integrated a payment gateway to enhance transaction efficiency, and created an optimized SQL database to store user data, orders, and food details.

TECHNICAL SKILLS

- **Programming:** Python, C++, HTML**,** PHP, Javascript, Bash, Pandas, Numpy, OpenCV, TensorFlow, PyTorch, SQL.
- **Software:** MATLAB/Simulink, Anaconda, Git, ROS2, Linux, AutoCAD, Solidworks, Proteus, Repetier Host, Keil uVision, Diptrace.
- **Other Skills:** Visual Studio, PyCharm, Jupyter Notebook.
- **Spoken Languages:** English, Hindi, Marathi.

ACTIVITIES

- **PlaceComm Head**, (MPSTME): Class representative for placement communication. Ensured simplified communication between placement committee and class.
- Competed and won inter-state soccer tournaments.
- Volunteered part-time with Pawzz Welfare Initiative to support stray animal care.
- Collaborated with Earth5R, a global environmental organization recognized by UNESCO.
- 100 Days of Code (Python) course completed on Udemy.
- Course on 3D Printing, printed multiple objects. Crafted using AutoCAD, Repetier Host, Solidworks.