# AKASH SAMPATH

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## CAREER OBJECTIVE :

AI and robotics engineer passionate about leveraging machine learning, automation, and advanced robotics to optimize complex systems. Seeking opportunities to deliver measurable business impact by enhancing system efficiencies, solving industry challenges, and driving innovation in AI-driven solutions.

## EDUCATION:

**DePaul University, Chicago, IL**
**Master of Science in Artificial Intelligence (Expected 2025)**
- Relevant Coursework: Neural Networks and Deep Learning, Robotics, Artificial Intelligence-1, Algorithms, Ethics in AI, Data Structures

**Agni College of Technology, Chennai, India**
**Bachelor of Engineering in Mechatronics (2022)**

## TECHNICAL SKILLS:

- **Programming Languages:** Python, C++, Java, SQL, ROS2, RobotC
- **AI & Robotics Tools:** TensorFlow, PyTorch, Vision Transformers, OpenCV
- **Software:** SolidWorks, AutoCAD, Catia, ANSYS
- **Hardware & Systems:** PLC Programming, Sensors, Microcontrollers (8085, 8051)

## PROFESSIONAL EXPERIENCE:

**Associate Engineer** – Urpan IT Pvt Ltd, Hyderabad, India (2023)
- Automated industrial processes, reducing manual interventions by 40%.
- Developed scalable PLC-based automation systems, improving operational efficiency by 30%.
- Collaborated with cross-functional teams to integrate IoT technologies into legacy systems.

**Junior Project Engineer (Intern)** – Robonetics Automation Solutions, Chennai, India (2018)
- Programmed and tested 6-axis industrial robots, optimizing gripper and tooling operations.
- Contributed to process optimization, achieving a 15% reduction in cycle times.

## PROJECTS:

**Smart TA Management Suite**
- Engineered an AI-driven NLP search engine using TF-IDF and BM25 algorithms, enabling accurate TA application searches.
- Developed a honeypot-based security system, preventing potential data breaches.

**Deepfake Detection System**
- Built a Vision Transformer-based classifier, achieving a 95% accuracy rate in detecting deepfake images.
- Enhanced computational efficiency, outperforming traditional CNN-based methods by 20%.

**Automated Pail Inspection System**
- Designed and implemented an AI-powered defect detection system, reducing inspection time by 50%.
- Increased manufacturing line accuracy to 98%.

**Drone Navigation and Piloting**
- Programmed drones for autonomous aerial mapping, completing surveys with 95% coverage accuracy.
- Deployed the system for terrain analysis in real-time use cases.

## Certifications:

- **AWS Certified Machine Learning – Specialty (In Progress)**
- **Drone piloting at Garuda Aerospace pvt ltd**
- **ROS (Robot Operating System) Essentials**
- **First Aid Certification (President of India)**
- **Rashtrapati Award for Scouting**