Sanjay Pokkali

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EDUCATION

- **University of Illinois - Urbana-Champaign**   Urbana-Champaign, USA
  Master of Computer Science; GPA: 3.8/4.0   *Aug 2024 – Present*
  Coursework: Robot Manipulation, Principles of Safe Autonomy, Autonomous Vehicle System Eng., Computer Vision

- **SSN College of Engineering, Anna University**   Chennai, India
  Bachelor of Engineering in Computer Science and Engineering; GPA: 8.10/10.0   *Aug. 2017 – July 2021*

EXPERIENCE

- **Slip Robotics**   Atlanta, USA
  Robotics Intern   *May 2025 – Aug 2025*

  * Developed a Gazebo Ignition Simulator for the SlipBot and UR20 arm for manipulation tasks.
  * Explored using MoveIt2 and ROS2 for controlling the UR20 arm.
  * Developed action recording capabilities for the SlipBot controller.

- **RoboPIL Lab**   Urbana-Champaign, USA
  Graduate Student Researcher   *Jan 2025 – Present*

  * Investigating imitation learning approaches using Diffusion Policies to improve cloth folding with robots, while developing a realistic simulator to predict trends and assess policy performance.
  * Exploring methods to import and simulate soft body objects in MuJoCo for realistic cloth rendering.
  * Configured the Aloha Robot and developed scripts for camera calibration, policy training, and evaluation.
  * Developing a new method for simulating deformable objects in robotics using a physics backbone and neural network. (Paper in review)

- **Cleo Communications**   Bengaluru, India
  Software Engineer 1 - API Team   *June 2023 – June 2024*

  - **Enhancing Partner Screen** *[NodeJS, Angular, AWS: Lambda, RDS]*:
    * Enhanced the current Partner UI to provide enhanced functionality and improved the performance of the backend API by approximately 150%.
  - **API Whitelisting** *[NodeJS, Angular, AWS: Lambda]*:
    * Introduced the ability to whitelist certain IPs for API-based endpoints.
    * Led the development of the user interface in Angular and the backend infrastructure in NodeJS.

  Associate Software Engineer - API Team   *Aug 2021– June 2023*

  - **Kong Infrastructure Upgrade** *[Ansible, Kong, AWS: AMI, EC2, RDS, Route53]*:
    * Performed a major upgrade of Kong Gateway with 0 downtime by using Ansible to interface with AWS and modify components.

PROJECTS

- **GEM Smart Summon and Obstacle Avoidance** *[Python, ROS]*: Developed an end-to-end pipeline to equip the GEM e2 vehicle with autonomous lane following and navigation capabilities to reach a user's GNSS location.
- **Semantic Visual SLAM** *[Python]*: Built a Visual SLAM system that merges map data with labeled objects, providing autonomous vehicles with semantic maps for advanced navigation and scene understanding.

PROGRAMMING SKILLS

- **Languages**: Python, C, C++, SQL, Java, JavaScript, TypeScript, HTML, CSS, Ansible

- **Frameworks and Technologies**: PyTorch, ROS, ROS2, Numpy, Pandas, NodeJS, Kubernetes, Git, AWS

ACHIEVEMENTS

- **Winner, Most Innovative Solana Application Award, HackIllinois**: Mar 2025