Sankalp Yamsani

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EDUCATION

University of Illinois at Urbana-Champaign, Urbana-Champaign, IL

Doctor of Philosophy, Electrical and Computer Engineering, Overall **GPA 3.84/4.0** Expected May 2026

- Teaching Assistantship: Computer Systems & Programming, Computer Systems Engineering (Operating Systems),
- Relevant Coursework: Principles of Safe Autonomy, Learning Based Robotics, Computer Vision, Human Robotic Interactions, Computer Systems Engineering, Real Time Systems, Deep Learning for Computer Vision

Bachelor of Science, Computer Engineering, Overall **GPA 3.91/4.0** December 2021

WORK EXPERIENCE

KIMLAB Research August 2021 – Current

- Implemented motion planning and controls for a distributed multi arm system in various static and mobile environments using ROS and Moveit's C++ / Python APIs, with testing done through Gazebo and physical hardware

Aurora • Software Engineering Intern, Mountain View, CA May 2022 – August 2022

- Remodeled a class for the Pandar Lidar sensor suite to allow for unit tests increasing debugging capabilities from **nothing to a human readable report for users**
- Integrated a new class to implement a logging tool that creates offline data to help notify users of any faults with the Pandar System on the vehicle minimizing debugging time from a **couple of weeks to a couple of days**
- Surveyed multiple teams to design an **automated** system that looks for broken messages, high latency, and missed data for on vehicle Pandar Sensors

Amazon • Software Development Engineering Intern, Seattle, WA Virtual May 2021 – August 2021

- Designed and implemented a secure and serverless Application Programming Interface to interact with an AWS S3 bucket, reducing personnel cost to **0 hours** on server maintenance
- Improved analysis of models generated by integrating a multitude of macro and micro levels of data analytic features including a geographical map, heat map, time series, and threshold to help visualize metrics
- Increased teams available **time for innovation** by reducing time spent on nominal data analysis efforts

Illinois Applied Research Institute • Software Engineering Intern, Urbana-Champaign, IL May 2020 – August 2020

- Reduced repeated code by **33%** leading to faster debugging and development time
- Engineered an optimization that vectorized MATLAB code to reduce runtime by **90%**
- Developed a testing suite and a visual for satellite to earth intersection code decreasing debugging time from **2 hours to a couple of minutes**

Ameren • Digital Intern, Urbana-Champaign, IL May 2019 - August 2019

- Consolidated an Oracle database for a capital project worth **$250,000** to replace multiple existing databases with a single source of truth for data accuracy and analytics
- Collaborated on an inter-disciplinary team to develop user-friendly interface modules for more than **50** senior management users to view project's analytics
- Developed an API using Python Flask to connect the Oracle database backend to the **new modernized** Angular 7 web applications expediting development process
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PROJECTS

Indoor Navigation with an Autonomous Vehicle January 2021 – May 2021

- Programmed and utilized Monte Carlo Localization techniques with a lidar sensor for vehicle to predict position in a given environment
- Streamlined workflow by developing and testing features using ROS and Gazebo, then implementing features on physical hardware of autonomous vehicle

TECHNICAL SKILLS

Languages: C, C++, Python, x86, System Verilog, RISC-V

Other: ROS, Git, Gazebo, Driver Development, Operating System Design, AWS Lambda, React, Node, Angular, Agile