# Lalitaditya Divakarla

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## EDUCATION

**Doctor of Philosophy, Computer Science** Jan 2025 - Dec 2027

Advisor: Dr. Zhi-Li Zhang | University of Minnesota | Twin Cities

*Researching Next-Gen 5G & C-V2X for ultra-low-latency CAV networks, teleoperated driving over 5G & NextG, and AI-powered digital twins for AV network optimization.*

**Master of Science, Robotics** Sep 2023 - May 2025

University of Minnesota | Twin Cities

**Bachelor of Technology, Electronics and Communication Engineering** Aug 2019 - May 2023

PES University | India

## SKILLS

**Domain Expertise:** Autonomous Vehicles, Path Planning, C-V2X, 5G/NextG Networks, Starlink, AR/VR, Digital Twin

**Programming & Scripting:** Python, C++,MATLAB, C#

**Simulation & Development Tools:** ROS/ROS2, CARLA, Unity, Unreal Engine (UE5), Accuver XCAL/XCAP

**Frameworks & Libraries:** Autoware, ArduPilot, OpenCV, PyTorch, TensorFlow

## EXPERIENCE

**Graduate Research Assistant** Aug 2024 - Present

University of Minnesota-Twin Cities | Minneapolis, USA

- **Constructed** an **Automated Vehicle sensor testbed** for MNCAV, integrating **sensor fusion in ROS 2** and developing a **digital twin**, while **spearheading** localization and planning enhancements.
- **Engineered** a **low-cost C-V2X sensing prototype** for rural intersections, **implementing** wireless communication strategies to **optimize** connected and autonomous vehicle performance.

**Graduate Research Assistant** Jan 2024 - Aug 2024

University of Minnesota-Twin Cities | Minneapolis, USA

- **Developed and deployed** a **drone swarm** for wildfire smoke concentration measurement, **designing** the swarm algorithm and **establishing** a robust **communication system** with the base station.
- **Engineered** an **agile framework** integrating **advanced image processing** for precise **vorticity measurement**, **enhancing** fluid analysis accuracy using **tracer particles**.

**Intern-Technology Consulting** Jan 2023 - Jul 2023

PriceWaterhouseCoopers Services LLP | Kolkata, India

- **Engineered** Metaverse **POCs**, leveraging Unreal, Unity, and Blender to create **immersive experiences** tailored to client.
- **Pioneered** Python automation in Blender to **generate 3D models from text inputs**, **enhancing** efficiency through GenAI.

**Student Project Intern** Feb 2021 - Dec 2022

NOKIA/NOKIA Bell Labs | Bengaluru, India

- **Configured** ROS and **deployed** Gazebo 3D models for **simulating environments** and TurtleBot navigation, achieving **autonomous SLAM mapping**.
- **Developed** a **digital twin framework** using **3D point cloud data**, enabling **accurate virtual replicas** of physical spaces for enhanced simulation and analysis

## PUBLICATIONS


- De La Fuente, J. F., Recondo, Á. P., Harvey, Venkateswaran, S., Balaganesh, N. S., Duggal, R. K., & Divakarla, S. G. L. (2023). Build your own closed loop: Graph-based proof of concept in closed loop for autonomous networks. *ITU Journal, 4(3)*, 503–536. https://doi.org/10.52953/opdk5666
- Rudraraju, K., Divakarla, S. G. L., & Vardhan, J. N. V. (2023). Door locking system using RFID and GSM technology. *2023 10th International Conference on Computing for Sustainable Global Development (INDIACom)*, 379-381.