

Naman Antony Menezes

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Education

Carnegie Mellon University, School of Computer Science

Masters of Science in Robotics Systems Development

4.06/4.00

August 2023 - May 2025

R. V. College of Engineering

B.E. in Electronics and Communication

9.14/10.00

Aug. 2018 - Aug. 2022

Technical Skills

Languages: Python, C/C++, CUDA, MATLAB, Verilog HDL

Machine Learning: PyTorch, vLLM, Vision Language Models (VLM), Vision Language Action Models (VLA), DDP, GRPO, reinforcement learning, distributed multi-node training, fine-tuning, inference optimization

Robotics: ROS1/ROS2, Gazebo, SLAM, sensor fusion, motion planning, PCL, LiDAR, point clouds, CAN Bus

Infrastructure: AWS, Kubernetes, Docker, Linux, Git, CMake

Experience

Software Engineer

NVIDIA Corporation

June 2025 - Present

California

- Trained a 600M-parameter Vision Language Model (DINOv2 encoder, Llama 3.1 backbone) with PyTorch DDP on 64 H100 GPUs across 8 nodes, followed by GRPO reinforcement learning post-training
- Shipped the improved [MapGPT](#) to production, delivering HD maps across multiple US cities and labelling the entire San Francisco area in hours
- Built the production inference stack on vLLM with caching and download optimizations, scaling VLM inference across AWS Kubernetes GPU clusters and driving thousands of GPU-hours
- Cut map generation cost ~5x by running inference only along road geometry instead of full tile grids
- Improved output precision and recall by 10% through inference-time scaling

Software Engineering Intern

NVIDIA Corporation [\[Docs\]](#)

May 2024 - August 2024

California

- Designed an exporter that converts 3D Occupancy Pointcloud Maps from NVIDIA's proprietary format to the open source 3D Tile Format with geospatially aligned tiles with multiple levels of detail
- Scaled the architecture to run on massively parallel cloud servers, exporting city scale maps in under 5 hours
- Implemented meshoptimizer compression, reducing 3D Tile Map size by ~5x, enabling city-scale visualization over a browser for the first time.

Project Associate

Artificial Intelligence and Robotics Lab (AIRL), Indian Institute of Science [\[Demos\]](#)

August 2022 - August 2023

Bangalore

- Developed an Autonomous Driving Stack for GPS Denied Environments presented at CES 2024
- Responsible for developing the entire low level communication architecture over CAN Bus

Software Engineering Intern

Packet Forwarding Engine Team, Juniper Networks [\[Certificate\]](#)

March 2022 - July 2022

Bangalore

- Developed a Python Tool that drastically reduces time spent in debugging routers

Projects & Competitions

RoboHacks, Y Combinator [\[Video\]](#)

April 2026

- Winner - Overall Prize and Scale AI Data Track (\$2,500 and two Innate robots)
- Built cross-robot spatial memory turning iPhone video and narration into a shared 3D map for pick and place
- Integrated NVIDIA Parakeet ASR, 3D reconstruction, ICP, Gemma 3 VLM and an action chunking policy

Meta Reality Labs: Photorealistic Human Avatars using Drones [\[Website\]](#) [\[Video\]](#)

Jan 2024

- Created a human following drone that avoids obstacles using DJI SDK and ROS2 on Mavic 3 Enterprise
- Trained a model on synthetically generated avatar models and demonstrated a real time full body codec avatar

GPS Denied Autonomous Navigation Algorithm [\[Demo\]](#)

July 2023

- Coded a full stack autonomous navigation algorithm for GPS Denied Environments
- Developed LiDAR map to real world registration using particle filter leveraging PCL Library
- Implemented local and global planning algorithms resulting in real time obstacle avoidance and road alignment

2D LiDAR Only SLAM Algorithm

July 2023

- Designed a CUDA based 2D Lidar SLAM Algorithm in C++ for ROS1 and optimized it to run in real time
- Implemented a Fourier Mellin Transform based frontend and a SE-Sync (graphSLAM) based backend

Publications

Multi Robot Path Planning Using Priority Based Algorithm

[Published IEEE CONECCT](#) July 2022

- Created and open sourced an algorithm to plan for multiple robots with distinct start and goal points
- Simulated scenarios with multiple robots on Gazebo [Square Park Map](#), [Narrow Corridor](#), [City Block Map](#)