

Narendiran Gopinathan Chembu

cgnarendiran@gmail.com (IN: +91 8754 997789) **Senior Machine Learning Engineer** | Bangalore, India

EDUCATION

University of Amsterdam (UvA)
Masters in **Artificial Intelligence**
2018-2020,
Amsterdam, The Netherlands

**Indian Institute of Technology
Madras (IITM)**
B. Tech in **Mechanical Engineering**
(Minor: **Industrial Engineering**)
2013-2017, Chennai, India

LINKS



FAMILIAR FRAMEWORKS

PyTorch, TensorFlow, Pandas, Ray,
OpenCV, ROS, Unity3D, Git, Docker

LANGUAGES

Python, C++, Javascript

COURSES

Machine Learning, Deep Learning,
Computer Vision, Natural Language
Processing, Information Retrieval,
Data Structures and Algorithms,
Reinforcement Learning,
Multi-agent systems, and Game
theory, Calculus, Linear Algebra &
Probability Theory

PUBLICATIONS

Journal "Aqueous Dispersions of
Lipid Nanoparticles Wet
Hydrophobic and
Superhydrophobic Surfaces", 2017,
Soft Matter, Royal Society of
Chemistry

AWARDS

Coveted **INSPIRE award**
(Innovation in Science Pursuit for
Inspired Research) consecutively
for two years **2009 and 2010** by
the Department of Science and
Technology (DST), India

WORK EXPERIENCE

Fastcode.AI | **Senior ML Engineer**

Aug' 2023 - Present (4 month) | Bangalore, India

- Led the Vital Sensing project (HR from NIR images) at Mercedes Benz (client), achieving early-stage solutions to low signal-to-noise ratio challenges over a three-month period
- Developed a highly efficient and flexible data engineering pipeline, enabling the training of various deep learning models, both supervised and unsupervised

Minds.AI Technologies | **ML Engineer**

Mar' 2022 - Jul' 2023 (1 year 4 months) | Bangalore, India

- Trained an RL setup switching agent (in SMT2020 fab testbed) that reduced queue lengths of wafer lots by 50%, leading to significant improvements in cycle times and throughput; these results attracted new customers
- Built an interactive panel-based dashboard used by the internal team to compare critical KPIs between different policies over time, view Gantt schedules & training metrics

NewSpace Research and Technologies | **Robotics and ML Engineer**

Apr' 2021 - Mar' 2022 (1 year) | Bangalore, India

- Developed an MVP of fixed-wing flight stack (R&D) in less than three months, which includes: autonomous control in offboard mode of PX4 (SITL, HITL, and real-life), robust simulation with flight dynamics in Gazebo & Unity3D, decentralized collision avoidance algorithms (RVO2), and a communication module with ROS2 & ROS1 bridge
- Built an in-house Ground Control Station software for complex mission planning, obstacle/geofence building, path planning, and status monitoring using PyQt5

CBoost | **Robotics and ML Engineer**

Oct' 2020 - Mar' 2021 (6 months) | Breda, The Netherlands

- Developed an autonomous robot (Pixie, 4-wheeled drive, Jetson AGX) from scratch in Nvidia Isaac SDK with custom stereo visual odometry (Intel D415) for localization, AprilTag relocalization, obstacle avoidance, and dynamic goal in two months
- Achieved a 0.87 IoU score on a bean field dataset (proprietary) by training a SegNet and HoughCNet in tandem for a crop-row detection pipeline in production

ZyLAB | **ML Research Engineer (Thesis project)**

Nov' 2019 - Aug' 2020 (10 months) | Amsterdam, The Netherlands

- Determined the most efficient loss-centric method in unsupervised domain adaptation of a pre-trained transformer (BERT) for entity recognition; achieved a performance gain of 0.2 F1 score; also contributed an extensively pre-processed Enron email dataset and annotation set

UvA | **Teaching Assistant (Course: Computer Vision/ Image Processing, Bachelors AI)**

Mar' 2019 - May 2019 (3 months) | Amsterdam, The Netherlands

- Assisted in programming assignment creation and evaluation in MATLAB & Python
- Provided personal guidance with a face time of 8 hrs/week for the students

Center For Innovation (student-run org. in IITM) | **Software Team, Abhiyaan**

Aug' 2016 - Aug' 2017 (1 year) | Chennai, India

(part of the Institute robotics team; qualified 13th among 34 global teams in the Intelligent Ground Vehicle Competition - IGVC 2017, Michigan USA)

- Implemented a custom pure-pursuit path planner that can handle sharper turns for a differential drive; also worked on EKF pose estimation with wheel encoders, GPS & IMU

VOLUNTEERING

- **Avanti, NGO (Oct 2013- June 2014)**: Mentored 50+ underprivileged students at Jawahar Navodaya, Pondicherry (11th grade) focussed on cracking Joint Entrance Examination and overall academic excellence