

# Narendiran Gopinathan Chembu

cgnarendiran@gmail.com ( NL: +31 6 49975047 / IN: +91 8754 997789) **Machine Learning/ AI Engineer** | Amsterdam, The Netherlands

## EDUCATION

### University of Amsterdam (UvA)

Masters in **Artificial Intelligence**

GPA: 7.88 (core: 9.0)

2018-2020,

Amsterdam, The Netherlands

### Indian Institute of Technology Madras (IITM)

B. Tech in **Mechanical Engineering**  
(minor: **Industrial Engineering**)

GPA: 8.78 (core: 8.81)

2013-2017, Chennai, India

## LINKS

 [Portfolio website](#)

 [Github](#)

 [LinkedIn](#)

## FAMILIAR FRAMEWORKS

Linux, PyTorch, TensorFlow, Keras,  
OpenCV, Pandas, ROS, Nvidia Isaac,  
Git, Docker, Flask, Spark, MySQL

## LANGUAGES

C++, C, Python, Java, MATLAB

## COURSES

Machine Learning, Deep Learning,  
Computer Vision 1 & 2, Natural  
Language Processing 1 & 2,  
Information Retrieval, Data  
Structures and Algorithms,  
Reinforcement Learning, Multi-agent  
systems and Game theory,  
Calculus Probability Theory

## PUBLICATIONS

**Journal** "Aqueous Dispersions of

Lipid Nanoparticles Wet

Hydrophobic and Superhydrophobic

Surfaces", 2017, Soft Matter, Royal

Society of Chemistry

**Conference** "An approach for  
including evaporation in a model for  
predicting spray penetration", 2016,  
18th Annual Conference on Liquid  
Atomization and Spray Systems  
(ILASS), Chennai, India

## WORK EXPERIENCE

### CBoost | **Robotics and AI Engineer**

Oct' 2020 - Dec' 2020 (3 months) | Breda, The Netherlands

- Developed an autonomous robot (Pixie, 4-wheeled drive) from scratch in Nvidia Isaac SDK with custom stereo visual odometry for localization, april-tag based relocalization and obstacle avoidance in the span of two months
- Achieved a 0.87 IoU score on a bean field dataset (proprietary) by training a SegNet and HoughCNet in tandem for crop-row detection pipeline

### ZyLAB | **Machine Learning Research Engineer** (Thesis project)

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

- Determined the efficient loss-centric method in unsupervised domain-adaptation of a pre-trained transformer (BERT) for entity recognition; performance gain of 3.2 F1 score
- Contributed an extensively pre-processed Enron email dataset and annotation set valuable for retrieval and extraction testing purposes at ZyLAB

### CtCue | **Machine Learning Engineer**

Jun' 2019 - Jul' 2019 (2 months) | Amsterdam, The Netherlands

- Built a generative autoencoder (s2s LSTM) tool for synthesizing Electronic Health Records (EHRs) resulting in 0 waiting-time of confidential data acquiring for testing query pipeline
- Created generic to specific tunable results through tempered softmax in the outputs

### UvA | **Teaching Assistant** (Course: 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 facetime of 8 hrs/week for the students

### IITM | **Project Associate** (project: Embodied Cognition, sponsored by the Defense Research Development Organisation (DRDO), India)

Aug' 2017 - May 2018 (10 months) | Chennai, India

- Solely fabricated the perception guided robot arm-grasping system on the Moveit! stack of ROS as an atomic task and created a simulation env in Gazebo for algorithm (RL) testing

### National Chemical Laboratory | **Research Intern** (co-authored a Journal paper in Soft Matter)

May' 2016 - Jul' 2017 (3 months) | Pune, India

- Simulated a Monte-Carlo Brownian dynamics to estimate the number of cubosomes (lipid nano-particles) adsorbed thus corroborating with experimental droplet retraction times

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

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

- Implemented the crucial navigation stack: localization through sensor fusion by Extended Kalman Filter (EKF), enabling obstacle-avoiding GPS waypoint navigation
- Designed and simulated the robot in Gazebo to test SLAM and lane-detection algorithms thus reducing manual testing times by 75%

## VOLUNTEERING AND AWARDS

- **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
- Awarded the 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