

# Narendiran Chembu

Machine Learning/ AI Engineer | Amsterdam, The Netherlands



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## Education

- 2018-2020 **University of Amsterdam (UvA)** | The Netherlands  
Master of Science in **Artificial Intelligence**  
- GPA: 7.88/10 (core courses GPA: 9/10)
- 2013-2017 **Indian Institute of Technology Madras (IITM)** | India  
(Engineering Institutes of India Rank 1, by Ministry of HRD since 2015)  
Bachelor of Technology in **Mechanical Engineering** (with minor in **Industrial Engineering**)  
- GPA: 8.78/10

## Work Experience

- Oct' 2020  
3 months **CBoost** (A robotics and AI consultancy) | Breda, The Netherlands  
**Robotics and AI Engineer**  
- Developed an autonomous robot (Pixie-four 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
- Nov' 2019  
9 months **ZyLAB** (An e-discovery firm for legal and Govt. orgs) | Amsterdam, The Netherlands  
**Machine Learning Research Intern** (Thesis project)  
- 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
- Jun' 2019  
2 months **CtCue** (An Information retrieval startup for the healthcare industry) | The Netherlands  
**Machine Learning Intern**  
- Built a generative autoencoder (s2s LSTM) tool for synthesizing Electronic Health Records 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
- Mar' 2019  
3 months **UvA - Course: Image Processing, Bachelors AI** | The Netherlands  
**Teaching Assistant**  
- Assisted in programming assignment creation and evaluation in MATLAB  
- Provided personal guidance with a facetime of 8 hrs/week for the students
- Aug' 2017  
10 months **IITM - Embodied Cognition** | India  
**Project Associate** (sponsored by the Defense Research Development Organisation, 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

## Projects

- Sep' 2016  
11 months **Center For Innovation** (A student-run innovation organization in IITM) | India  
**Software Team, Abhiyaan** (part of 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%
- May' 2016  
3 months **National Chemical Laboratory** (NCL Pune) | India  
**Research Internship** (co-authored Journal paper published in Soft Matter - 2017)  
- Simulated a Monte-Carlo Brownian dynamics to estimate the number of cubosomes (lipid nano-particles) adsorbed thus corroborating with experimental droplet retraction times

## Links



[Portfolio website](#)



[Github](#)



[LinkedIn](#)

## Languages

C++, C, Python,  
Java, MATLAB

## Relevant Frameworks

Linux, PyTorch,  
TensorFlow,  
Pandas, SQL,  
ROS, Nvidia Isaac,  
Git, Docker,  
Flask, Spark

## Hobbies

Hitchhiking and  
playing the ukulele

## Relevant Coursework

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Machine Learning	Computer Vision 1 & 2
Deep Learning	Natural Language Processing 1 & 2
Information Retrieval	Reinforcement Learning
Image Processing	Multi-agent systems and Game theory

## Volunteering and Awards

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

## Publications

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- **Conference Paper: (accepted)** "An approach for including evaporation in a model for predicting spray penetration" - 2016 – 18th Annual Conference on Liquid Atomization and Spray Systems (ILASS) - Asia chapter, Chennai, India (Gautham Krishnan, Narendiran CG and ShamitBakshi)
- **Journal Paper\*: (accepted)** "Aqueous Dispersions of Lipid Nanoparticles Wet Hydrophobic and Superhydrophobic Surfaces" - 2017 – Soft Matter, Royal Society of Chemistry (Manoj Kumar, Mayuresh Kulkarni, Narendiran Chembu, Arun Banpurkar, Guruswamy Kumaraswamy)