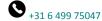
# **Narendiran Chembu**

### 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** 

- Built 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





# Skills

Python

**\*\*\*** C++

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PyTorch **\*\*\*** 

TensorFlow **\*\*\*** 

**Pandas** 

**\*\*\*** SQL

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**PySpark**  $\rightarrow$ 

ROS

Git

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#### **Hobbies**

Hitchhiking and playing the ukulele

#### **Relevant Coursework**

Machine Learning
Deep Learning
Information Retrieval

**Image Processing** 

Computer Vision 1 & 2

Natural Language Processing 1 & 2

Reinforcement Learning

Multi-agent systems and Game theory

# **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 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**

- **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)