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, Jetson AGX) from scratch in Nvidia Isaac SDK with custom stereo visual odometry (Intel D415) for localization, april-tag relocalization, obstacle avoidance and dynamic goal 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 tool

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' 2016 (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