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
- in LinkedIn

Languages

C++, C, Python, Java, MATLAB

Relevant Frameworks

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

Hobbies

Hitchhiking, playing chess and the ukulele

Relevant Coursework

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

- **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)