



# Gokul Karthik

MSC COMPUTER VISION @ MBZUAI · BTech INFORMATION TECHNOLOGY @ ANNA UNIVERSITY

AI APPLIED RESEARCH SCIENTIST · EXPLORING DEEP TECH ENTREPRENEURSHIP

WON 8 NATIONAL-LEVEL HACKATHON TYPE EVENTS IN INDIA & UAE

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## Education

### Mohamed Bin Zayed University of Artificial Intelligence | MSc in Computer Vision

📍 Abu Dhabi, UAE

CURRENT CGPA: 4 / 4

2021/Aug – 2023/May (Expected)

- Coursework: Machine Learning, Computer Vision, Geometry for Computer Vision, Visual Object Detection & Recognition, Trustworthy AI
- Machine Learning Project: MuCoT - Multilingual Contrastive Training Approach for Low-resource Languages (NLP)
- Visual Object Detection & Recognition Project: Self-supervised Pretraining of Object Detection Transformers (Computer Vision)
- Trustworthy AI Project: HateCLIP - Multimodal Hateful Meme Classification with CLIP Transformer Encoders (NLP+Computer Vision)

### Anna University | BTech in Information Technology

📍 Madurai, India

CGPA: 9.74 / 10 | DEPARTMENT RANK: 1 / 130 | THIAGARAJAR COLLEGE OF ENGINEERING

2015/Jul – 2019/May

- Awarded Gold Medal of Excellence (Overall Best Outgoing Student) out of 1000+ graduating students in 2019 batch
- Relevant Coursework: Object Oriented Programming, Data Structures and Algorithms, Web Technologies, Data Base Management System, Software Engineering, Big Data, Data Mining

## Experience

### Mohamed Bin Zayed University of Artificial Intelligence | Research Assistant

📍 Abu Dhabi, UAE

MENTOR: DR. KARTHIK NANDAKUMAR

2021/Jan – 2021/Jul

- Developed DoENet, a double encoder architecture using Variational Autoencoders and GANs, for unsupervised adversarial classification

### TCS Research & Innovation | Machine Learning Developer

📍 Chennai, India

MENTORS: DR. AVINASH ACHAR, DR. GIRISH PALSHIKAR; ACADEMIC COLLABORATOR: DR. BALARAMAN RAVINDRAN

2019/Apr – 2020/Nov

- Improved sales prediction models for the retails client using N-Gram models and Deep Neural Networks like RNNs and LSTM
- Implemented latest spatio-temporal travel time prediction models as baselines for evaluating temporal difference prediction models
- Developed intelligent employee profile retrieval system using text mining techniques
- Developed computer vision pipelines to solve curved text extraction, perspective correction etc

### IIT Madras / One Fourth Labs / AI4Bharat | Deep Learning Project Intern

📍 Chennai, India

MENTORS: DR. PRATYUSH KUMAR, DR. MITESH KHAPRA

2018/Dec – 2019/Mar

- Developed robust scene text recognition architecture for Indian languages
- Implemented Efficient and Accurate Scene Text Detector (EAST) for Indian signboard scene text detection
- Developed handwriting recognition system using Convolutional Recurrent Neural Networks for automatic answer-script evaluation
- Set up programming competitions for the PadhAI Deep Learning course

## Honors

- 2021 **Winning Team** in the ADAFSA Agrithon for developing visual plant disease diagnosis, optimal animal clinic placement etc.
- 2021 **Finished Second** in the GITECH x AI-everything High Flyer challenge for the AI-powered dubbing presentation
- 2021 **Selected among the Top 10 teams** for the deep tech startup incubation program by Khalifa Innovation Center
- 2020 **Innovation Pride Award** by TCS for winning the Image Enrichment Challenge 2 out of 100+ participants
- 2020 **Winning Team Lead** of TCS DDS ML Hackathon out of 8 teams for developing the corn-hybrid recommendation system
- 2019 **Special Initiative Award** by TCS for the data driven solution to DDS profile hunt
- 2019 **Winning Team Lead** of IIT Madras AI Hackathon out of 500+ teams for developing safe route identification system
- 2019 **Gold Medal of Excellence** for the best outgoing student out of 1000+ students of TCE
- 2018 **Winning Team Lead** of Guvi-HCL AI Hackathon out of 30+ teams for developing the qualitative recommendation app
- 2017 **All India Rank 1** in the NPTEL course 'Social Networks'
- 2017 **Top 8** in the MHRD Smart India Hackathon out of Top 50 teams for the development of smart evaluation application

## Skills

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<b>Technologies</b>	Deep Learning, Computer Vision, Natural Language Processing, Data Science, Social Network Analysis
<b>Programming</b>	Python, C++, R, MySQL, <del>TeX</del>
<b>Python Packages</b>	PyTorch, Hugging Face, Keras, Tensorflow, Scikit-Learn, OpenCV, NLTK, NetworkX, Numpy, Pandas, Matplotlib
<b>Platforms</b>	Google Cloud Platform, Amazon Web Services, MS Excel, Tableau, QlikView
<b>Software Frameworks</b>	Git, Streamlit, FastAPI, Flask, HTML, CSS, JS, Shiny, Android

## Certifications

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- 2021 **Generative Adversarial Networks (GANs) Specialization**, By DeepLearning.ai on Coursera
- 2020 **Futures Thinking Specialization**, By Institute for the Future on Coursera
- 2020 **Computer Vision Nanodegree**, By Udacity
- 2020 **Deep Learning Specialization**, By DeepLearning.ai on Coursera
- 2018 **Data Science Summer School**, By ACM and IIT Madras at Goa University
- 2018 **Data Analyst Career Track**, By DataCamp
- 2017 **Applied Data Science Specialization**, By University of Michigan on Coursera
- 2017 **Social Networks Course**, By IIT Madras on NPTEL (All India Rank 1)

## Mini Projects

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- 2020 **Standard Deep Learning Projects** - Baby Name Generation, Neural Style Transfer, Image Segmentation etc.
- 2020 **Cryptocurrency Market Prediction** - Using Long- and Short-term Time-series network (LSTNet).
- 2017 **GitHub Social Network Analysis** - Exploration of data science repositories

## Publications

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<b>MuCoT - Multilingual Contrastive Training Approach for Low-resource Languages</b>	<i>Dublin, Ireland</i>
<b>GOKUL KARTHIK KUMAR</b> , ABHISHEK SINGH GEHLOT, SAHAL SHAJI MULLAPPILLY, KARTHIK NANDAKUMAR	<i>May-2022</i>
Association for Computational Linguistics - Workshop on Speech and Language Technologies for Dravidian Languages ( <b>ACL-W</b> )	
<b>Method And System For Forecasting Sales Based On N-Gram Model</b>	<i>Online</i>
<b>GOKUL KARTHIK</b> , AVINASH ACHAR, BALARAMAN RAVINDRAN	<i>Oct-2020</i>
<b>Indian Patent Application</b> E-1/52276/2020-MUM	
<b>Dynamic Bus Arrival Time Prediction: A Temporal Difference Learning Approach</b>	<i>Online</i>
VIGNESH LKP, AVINASH ACHAR, <b>GOKUL KARTHIK</b>	<i>Jul-2020</i>
International Joint Conference on Neural Networks ( <b>IJCNN</b> )	

## Reference

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<b>Dr. Karthik Nandakumar</b>	<i>karthik.nandakumar@mbzuai.ac.ae</i>
ASSOCIATE PROFESSOR, MOHAMED BIN ZAYED UNIVERSITY OF ARTIFICIAL INTELLIGENCE	<i>Primary Academic Advisor in MSc</i>