

Gokul Karthik Kumar

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Education

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

📅 2021/Aug – 2023/May 📍 Abu Dhabi, UAE 🎓 CGPA: 3.9 / 4

- Coursework: Machine Learning, Computer Vision, Geometry for Computer Vision, Visual Object Detection & Recognition, Trustworthy AI

Anna University | BTech in Information Technology

📅 2015/Jul – 2019/May 📍 Madurai, India 🎓 CGPA: 9.7 / 10

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

Experience

Microsoft Research | Machine Learning Research Intern

📅 2022/Jun – 2022/Aug 📍 Bengaluru, India

- Extensively evaluated the design choices for Text-To-Speech systems in Indian languages

Mohamed Bin Zayed University of Artificial Intelligence | Machine Learning Research Assistant

📅 2021/Jan – 2021/Jul 📍 Abu Dhabi, UAE

- Improved unsupervised adversarial attack classification with double variational autoencoders

TCS Research | Machine Learning Developer

📅 2019/Apr – 2020/Nov 📍 Chennai, India

- Improved retail sales forecasting using N-Gram models, Recurrent Neural Networks and LSTM
- Implemented state-of-the-art spatio-temporal travel time prediction models
- Developed intelligent employee profile retrieval system using text mining techniques
- Developed computer vision pipelines to solve curved text extraction and perspective correction

IIT Madras / One Fourth Labs / AI4Bharat | Machine Learning Project Intern

📅 2018/Dec – 2019/Mar 📍 Chennai, India

- Developed scene text detection and recognition models for Indian languages
- Developed handwriting recognition system using Convolutional Recurrent Neural Networks for answer-script evaluation
- Set up programming competitions for the PadhAI Deep Learning course

Skills

Programming Python

Technologies Machine Learning, Computer Vision, Natural Language Processing, Speech Processing, Data Science

Python Packages PyTorch, Hugging Face, Keras, Tensorflow, Scikit-Learn, OpenCV, NLTK, NetworkX, Numpy, Pandas, Matplotlib

Platforms Google Cloud Platform, Amazon Web Services, MS Excel, Tableau, QlikView

Software Frameworks Git, Streamlit, FastAPI, Flask, HTML, CSS, JS, Shiny

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

Certifications

- 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

- 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

Towards Building Text-To-Speech Systems for the Next Billion Users

📍 *Under Review at ICASSP*

GOKUL KARTHIK KUMAR*, PRAVEEN S V*, PRATYUSH KUMAR, MITESH M. KHAPRA, KARTHIK NANDAKUMAR

Dec-2022

Hate-CLIPper: Multimodal Hateful Meme Classification based on Cross-modal Interaction of CLIP features

📍 *EMNLP Workshop*

GOKUL KARTHIK KUMAR, KARTHIK NANDAKUMAR

Dec-2022

MuCoT: Multilingual Contrastive Training For Question-Answering In Low-resource Languages

📍 *ACL Workshop*

GOKUL KARTHIK KUMAR, ABHISHEK SINGH GEHLOT, SAHAL SHAJI MULLAPPILLY, KARTHIK NANDAKUMAR

May-2022

An Empirical Study Of Self-supervised Learning Approaches For Object Detection With Transformers

📍 *ArXiv*

GOKUL KARTHIK KUMAR, SAHAL SHAJI MULLAPPILLY, ABHISHEK SINGH GEHLOT

May-2022

Method And System For Forecasting Sales Based On N-Gram Model

📍 *US Patent*

GOKUL KARTHIK, AVINASH ACHAR, BALARAMAN RAVINDRAN

Mar-2021

Dynamic Bus Arrival Time Prediction: A Temporal Difference Learning Approach

📍 *IJCNN*

VIGNESH LKP, AVINASH ACHAR, **GOKUL KARTHIK**

Jul-2020