Abhinand Jha

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EDUCATION

CARNEGIE MELLON UNIVERSITY
MS IN ELECTRICAL AND COMPUTER ENGINEERING
Minor : Machine Learning
CGPA: 4.0 / 4.0
Dec 2023 | Pittsburgh, PA

MANIPAL UNIVERSITY
BS IN ELECTRICAL ENGINEERING
Minor : Embedded Systems
CGPA: 9.02 / 10
Aug 2020 | Manipal, India

COURSEWORK

Machine Learning for Engineers
Introduction to Deep Learning
Mathematics & CS for Machine Learning
Foundation of Computer Systems
Data Inference & Machine Learning
Natural Language Processing

CERTIFICATIONS

Deep Learning Specialization (Coursera)
TensorFlow Developer (Coursera)
NLP Specialization (Coursera)
IBM Data Science (Coursera)
Advanced Python Bootcamp (Udemy)

SKILLS

PROGRAMMING LANGUAGES
C/C++ • Python • SQL • Verilog
FRAMEWORKS AND TOOLS
Pytorch • Tensorflow • NumPy • AWS • Scikit • NLTK • Jenkins

AWARDS

- Secured position 1/30 in a Machine Learning (NLP) hackathon at Deloitte
- Performance based applause awards (x2) at Deloitte
- Gold medal and certificate of merit for academic excellence in college – rank 7/172 students
- Top 50 all over India - National Cyber Olympiad (NCO)

EXPERIENCE

DELOITTE | DATA ANALYST

Sept 2020 — Dec 2021 | Hyderabad, India

- Implemented backend for an Auto-ML web application by utilizing PyCaret python library to develop robust machine learning models and collaborated with front-end team to build APIs using Flask
- Pioneered automation effort to migrate over 50M data points from legacy databases to cloud for a national bank, saving 40 man-hours/week overall
- Deployed end-to-end data warehousing and migration solutions in production for clients by leveraging AWS EC2, Redshift, S3 and Glue

RESEARCH

CARNEGIE MELLON UNIVERSITY | GRADUATE RESEARCHER

Jan 2022 - Present | Pittsburgh, PA

- Led effort to conceptualize & contrive a novel self-supervised deep learning method for few-shot segmentation of MRI/CT scans, achieving performance comparable to state of the art
- Leading a team of 5 interns to devise an unsupervised algorithm for sub-nanometer particle detection in electron microscopy data

UNIVERSITY OF SHARJAH | UNDERGRADUATE RESEARCHER

Jan 2020 — Sept 2020 | Sharjah, UAE

- Programmed an algorithm in verilog to protect embedded processors against passive Side Channel Attacks, achieved state of the art performance
- Publication accepted in one of the top journals in computational research

PROJECTS

AUTO-ONTO (Hackathon winning submission)
Application to automatically extract keywords and inherent hierarchical relationships from large text corpus by employing NLP, Word Embeddings and clustering

CpPyox Programming Language (C++)
High-level dynamically typed language, written in C++ with a tree-walk Interpreter, Lexer, Scanner, Error synchronization and Automatic garbage collection, using visitor design pattern

Real time face mask detection (Python, RaspberryPi)
App to detect if a person is wearing a face mask by leveraging real time video feed from Raspberry Pi and computer vision

Abstractive text summarization for academic text (Python)
Tool to mine text from public academic archives and generate short abstractive summaries with GPT-2 model

PUBLICATIONS

[1] A. A. El-Moursy, A. M. Darya, A. S. Elwakil, A. Jha, and S. Majzoub. Chaotic clock driven cryptographic chip: Towards a DPA resistant AES processor. *IEEE Transactions on Emerging Topics in Computing*, 10(2):792–805, 2022. https://ieeexplore.ieee.org/document/9301437.