Abhinand Jha

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EDUCATION

Carnegie Mellon University — Pittsburgh, PA

Master of Science in Electrical and Computer Engineering – GPA 4.0/4.0 — *Jan 2022 – Dec 2023*

Relevant coursework: Machine Learning for Engineers, Intro to Deep Learning, Foundation of Computer Systems, Data, Inference and Applied Machine Learning

Manipal Institute of Technology — Karnataka, India

Bachelor of Technology in Electrical Engineering – GPA 9.1/10.0 – Gold Medalist — *May 2016 – Aug 2020*

Relevant coursework: Data Structures and Algorithms, Linux Programming, Operating Systems, Neural Networks and Fuzzy logic

EXPERIENCE

Deloitte USI — Hyderabad, TS, India

Data Analyst — *Sept 2020 – Dec 2021*

- Secured **1st position** out of 30 teams in a firm-wide Hackathon by developing a tool that generates ontologies from text documents, deployed in production – eliminating the operational burden of **100 man-hours/year**
- Collaborated with DevOps and front-end teams to build REST APIs for an internal Auto-ML application and composed a fully managed **MLOps pipeline** following industry best practices for testing and deploying models
- Developed a data migration pipeline and set up a cloud data warehouse to migrate over **50M data points** from legacy databases to the cloud, saving **40 man-hours/week** overall
- Received **Applause Awards (x2)** for automating customer data onboarding for a national bank by developing a feature that migrated data from multiple sources in a single click

Carnegie Mellon University — Pittsburgh, PA

Computer Vision Graduate Researcher — *Jan 2022 – Present*

- Led effort to research and conceptualize a novel **self-supervised** deep learning method for few-shot segmentation of MRI/CT scans, achieving performance comparable to state of the art
- Performed extensive ablation studies by evaluating multiple models on diverse datasets – **submitted a research paper** based on the findings

PROJECTS

AUTO-ONTO (Hackathon winning submission) | *Python, PyTorch, MySQL, Docker*

- Application to automatically extract keywords and inherent hierarchical relationships from large text corpus by employing NLP, Word Embeddings and clustering [ppt][code]

CodeRem (Hackathon runner-up submission) | *TypeScript, JavaScript, Next.js*

- A web application that helps individuals learn to code through a spaced repetition based learning algorithm and peer-to-peer code reviews, developed in TypeScript [code]

Pyox Programming Language | *C++, Python*

- 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 [code]

PUBLICATIONS

- *GFSS: Joint Few-Shot Medical Image Segmentation and Super-Resolution*, Z. Fan, X. Cao, Z. Xing, A. Jha, Y. J. Zhang and M. Xu, CVPR 2023 Conference Submission

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

TECHNICAL SKILLS

Languages: C, C++, Python, SQL, JavaScript, HTML, CSS

Frameworks and tools: Pytorch, Tensorflow, Apache Airflow, Jenkins, Flask, AWS, Oracle OCI, Docker, git