Manan Sharma

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WORK EXPERIENCE

NETHERMINDS | Internship | Jan 2022 – Apr 2022

- Part of the core Netherminds team.
- Worked on the verkle project.
- Implement Pedersen hash support for the verkle trees.

SUMMER OF BITCOIN | Open Source | Jul 2021 – Sept 2021

- Implemented Taproot support for NBXplorer & BTCPayServer, which is the next major upgrade after SegWit.
- Used ASP.Net framework with xunit testing.
- Used Dockers for stable testing envroments.
- Learned & Implemented different BlockChain & Signature concepts

MICROSOFT RESEARCH & DEVELOPMENT | Data Science Intern Hyderabad, India | May 2019 – Jul 2019

- Developed an Automated Question Answering System for Local Search in Bing.
- Trained our own Question & Answer embeddings using BERT.
- Matched the Question and their Answers using closest embeddings.

FABULYST | Intern | Aug 2016 - Nov 2016

- Scrap different fashion items and their details from on-line resources and used MongoDB for storage.
- Built an annotation tool for annotating tags for all the scraped items using AngularJS.

EDUCATION

International Institute of Information Technology, Hyderabad Hyderabad, India | Jul 2016 - Current

BTech & MS By Research in Computer Science

CENTER FOR VISUAL INFORMATION TECHNOLOGY | Research Assistant | Nov 2021 - Current

- Researching under Dr. Sudipta Banerjee.
- Identifying and uncovering the edits done to a image.

TEACHING ASSISTANT | Topics in Applied Optimization | Aug 2018-Nov 2018

CENTER FOR VISUAL INFORMATION TECHNOLOGY | Research Assistant | Aug 2016 - Nov 2018

- Researched under Dr. Avinash Sharma.
- Reconstructing a 3D dynamic model via video feeds coming a uncalibrated camera setup.

Jaypee Institute of Information Technology, Noida NOIDA, India | Jul 2014 - Jun 2016

BTech & MTech in Computer Science

Coursework: Data Structures and Algorithms; Operating Systems; Complexity and Advanced Algorithms; Digital Image Processing; Statistical Methods in AI; Computer Vision; Optimization Methods; Introduction to Parallel Scientific Computing;Database Systems;Linear Algebra; Distributing Trust & Blockchains; Compilers; Distributed Systems

ACHIVEMENTS

KICKSTART | |

- Ranked 100 in Google Kick Start Round D 2019 in 10000
- Ranked 581 in Google Kick Start Round D 2020 in 10000
- Ranked 862 in Google Kick Start Round D 2021 in 10000

CODECHEF | |

- Global Rank 1 in May Challenge 2021

ACM-ICPC | |

- 2017:Ranked 42 all over India in the On-site Coding Round at Asia Chennai Regional
- 2016:Ranked 99 all over India in the On-site Coding Round at Asia Amritapuri Regionals

MISCELLANEOUS | |

- Qualified for Code Jam Round 2
- Qualified for HackerCup Round 2

PROJECTS

UBLAS MATRIX LIBRARY WITH EXPRESION TEMPLATES C++, UBLAS, Linear Algebra

- Created a Matrix Library in C++ using expression templates for compile time evaluation.
- The operations were written to support slicing a splicing without any verbose syntax.

DECAFF COMPILER C++,LLVM,YACC

- Build a Compiler for a turing complete programming language Decaff.
- We used Bison and Yacc for parsing the language.
- To make the project modularized we used Visitor Patterns and many more OOPs techniques.

PARALLEL IMAGE COMPRESSION USING PCA C++, OpenMP

- Compress a given image using PCA.
- Create our own algorithm to compress image using PCA.
- Accelerate the compression time by parallizing the algorithm using openMP.

RUSSIAN TWEET TROLL ANALYSIS Python, NLP

- Build a Tweet analyzer if it is a troll or not.
- Trained our BERT model using russian troll dataset .
- Developed a frontend website for easy presentation

STUDENT TEACHER TRANSFER LEARNING Python, Pytorch, Tranfer Learning

- Transfer the knowledge learned by very deep Neural Network to a shallower Neural Network.
- Train the original deep Neural Network on the original data.
- Make the learning faster for the smaller neural network via providing the soft targets.

IMAGE UNCROP Python, MRF, Computer Vision

- Extend a given image using existing wild images on the internet.
- The images are positioned using Structure from Motion.
- The images are then stitched together seamlessly using Markovian Random Fields.

UNIX/LINUX SHELL C, Posix, OS

Create a shell to simulate built-in commands,piping ,I/O redirection & signals.

GRAPHICS C++, JS, OpenGL, WebGL

- Create a Bloxorz like game using OpenGL.
- Create a Fish Aquarium Simulator using WebGL.
- Created our own 3D movie.

SKILLS

Languages: Java, C++, C, Python, C#, PHP, Bash, C, SQL
Web Development: AngularJS, JavaScript, TypeScript, HTML/CSS
Technology: Git, Docker, Unity, LaTeX, MongoDB, Neo4j, OpenMP, OpenGL, WebGL