MAYANK MURALI

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EDUCATION

The Pennsylvania State University **University Park, PA** **Expected graduation May 2022**

- *Master of Science, Computer Science.*
- *Selected Coursework:* Algorithm Design and Analysis, Fundamentals of Computer Architecture, Digital Image Processing II, Pattern Recognition and Machine Learning, Computational Biology, Algorithms and Data Structures in Bioinformatics.

Vellore Institute of Technology **Chennai, India** **2015 - 2019**

- *Bachelor of Technology, Computer Science and Engineering.*

EXPERIENCE

Graduate Teaching Assistant **The Pennsylvania State University** **Jan 2020 – Dec 2021**

- Facilitated cognitive learning on 'Introduction to System Programming (CMPSC 311)' course for B.S. (Engineering) students for 20 credit hours which included tutoring sessions, grading as well as counselling students in need.

Full Stack Developer Intern **Agrometrics Analytics & Technology Pvt.Ltd.** **Jan 2019 – April 2019**

- Part of the team which developed a software product "FarmPro" which is an ARP system for agri-business. Helped in building backend software modules that capture data related to farm operations from SQL database and relay them to the front-end website interface using Python, PHP and SQL.

TECHNICAL PROJECTS

- **P2P Local File System** | *C*
  Built API for LRU cache interface that caches blocks written and retrieved to the main driver program for different workloads. In addition, designed and implemented unit tests for read, write, and cache module with C language in collaboration with other teaching assistants for the file system driver as part of in-class project for the CMPSC 311 course.

- **Drug-Disease Prediction and its Feature Selection Analysis** | *Python 3* | Code
  Developed a predictive model using binary classification algorithms to identify potent drug candidates for a given disease using the existing knowledge of drugs. Applied feature selection on the dataset obtained from Kaggle having features like drug chemical structures, drug-drug and drug-disease correlations.

- **In-Order Pipeline Simulator** | *C++* | Code
  Implemented an extension to cycle-accurate in-order simulator based on the MIPS R10K microarchitecture using C++ language. Developed part of MIPS pipeline to add a dynamic branch predictor and an Next-N-line prefetcher that out-performs the baseline model for L1 cache.

LANGUAGES AND TECHNOLOGIES

- *Programming/Scripting Languages*: C, C++, Python, Java, SQL, HTML, PHP, JavaScript, R.
- *Framework and tools*: Hadoop, Pandas, MATLAB, LaTeX, Git, Visual Studio, Anaconda, Galaxy.

ADDITIONAL EXPERIENCE AND AWARDS

- **Microsoft, Networking Fundamentals Certification:** received 'Microsoft Technology Associate 2018' certificate.
- **Conference Presentation, Lead Author:** Presented (oral) a paper titled 'Data Analytics on IoT-based Health Monitoring System' in 'International Conference of Cognitive IoT with Big Data and Cloud' (ICCIBC 2018) organized by Department of Computer Science, Hindustan Institute of Technology & Science, Chennai, India during Oct. 25-26, 2018.
- **TEDx Event Management**: Executive member of Organization Committee of TEDx VIT Chennai hosted by the English Literary Association.
- **ENACTUS for Social Uplift, Project Lead:** Student Member of Enactus VIT Chennai during the years 2017 and 2018, for implementation of community outreach projects for economic upliftment of the underprivileged.

RESEARCH PUBLICATIONS

- **M. Murali**, M. Bhargava, G. Snehaa, A. Anand, Md. A. Haque and V.R. Sarobin, "**Data Analytics on IoT-based Health monitoring system"**, *International Journal of Recent Technology & Engineering* (Scopus- indexed) – ISSN:2277-3878, Volume-8, Issue-1, pp. 220-223, 2019.
- B. Sahoo, A. Maharana, **M. Murali**, L. Shivani, G. Suganya and M. Premalatha**, "Low-Cost Air Sensing System,"** In *Proceedings of 3rd International Conference on Computing and Communications Technologies (ICCCT)*, pp. 258-267. IEEE, 2019. doi: 10.1109/ICCCT2.2019.8824890