

EXPERIENCE

Pennsylvania State University

State College, PA

❖ High Performance Computing Software Consultant

Jan 2021 – Present

- Working at the **Institute for Computational and Data Sciences (ICDS)** to assist in implementation of scientific applications like MATLAB, RStudio, Abaqus and utilization of ICDS's Roar supercomputer system
- Building, testing, and administering scientific software applications on the Roar system

❖ Graduate Research Assistant

Aug 2020 – Present

- Performing research focusing on image segmentation in ultrasound imaging using image processing and deep learning techniques in the Ultrasound in Imaging and Therapy Lab (UIT) under Dr. Mohamed Almekkawy

❖ Learning Assistant & Technology Tutor

July 2020 – Dec 2020

- Learning Assistant for course 'Database Management Systems' in Fall 2020, conducted office hours to help students with assignments and course material
- Provided individual consultations for Penn State faculty, student and staff with technology use, and delivered personalized training on applications like Zoom, Office 365, WordPress, Kaltura

APTTUS

Bangalore, India

❖ Product Engineering Intern

July 2018 – Aug 2018

- Worked on Hadoop Data Ingestion using SQOOP tool and Oozie Workflow, exported data from HDFS to Azure SQL Server handling thousands of new and updated client records
- Gained a strong grip on using the Configure-Price-Quote module on Salesforce and obtained Salesforce Admin for APTTUS certification

EDUCATION

M.S. in Computer Science & Engineering | The Pennsylvania State University | GPA: 3.67/4**Jan 2020 – Dec 2021**Relevant Coursework: Pattern Recognition & Machine Learning, Natural Language Processing, Computer Informatics, Numerical Linear Algebra, Fundamentals of Computer Architecture, Medical Image Reconstruction**B.E. in Computer Science & Engineering | Visvesvaraya Technological University | GPA: 8.11/10****Aug 2015 – June 2019**

PROJECTS

Cardiac Structures Segmentation in 2D Echocardiography

- Performed segmentation of left-ventricle structures on the CAMUS dataset, an open large-scale cardiac dataset, using UNet++ and Dense-UNet with skip connections
- Achieved segmentation accuracy comparable to the State of the Art for Endocardial contour of left ventricle, a dice coefficient of 0.934 (SOTA – 0.939)

Emoji Prediction on Twitter Dataset based on Sentiment

- Analyzed relation between tweet messages (English & Spanish) and emojis in correlation with sentiment using Recurrent Neural Networks (RNNs) in Python, obtained results on par with SemEval 2018 task
- Improved accuracy on English tweets from 42.5% to 44.9% by augmenting the dataset by translating Spanish tweets to English

Smart Campus Communication

- In a team of 4, developed a web and mobile application to facilitate communication and collaboration purposes within a campus using Golang, Python, Java, PKI, MariaDB & WebRTC

Breast Cancer Histopathological Image Classification

- Implemented deep neural network, ResNet, to classify histopathological breast cancer images into benign and malignant cases using Python, performed a comparison against traditional machine learning classification algorithms, SVM & Decision Trees
- Improved quantitative analysis by preprocessing and enhancing the pathological images & by extracting feature representations

TECHNICAL SKILLS

- Web & Programming Skills:** C++, Python, MATLAB, HTML5, Linux
- Database:** MySQL, Azure SQL
- Tools & Libraries** Apache Oozie, Sqoop, MapReduce, TensorFlow, OpenCV, Keras, Scikit-Learn, Pandas, NumPy, Tableau, Git, Basic Salesforce Administration

PUBLICATION

- Kruthika M.R.**, Adithya Kumar N.S., Abhishek S., Abhigna A., "A Smart Campus Communication System", International Journal of Computer Sciences and Engineering, Vol.07, Issue.09, pp.34-37, 2019. ([DOI: 10.26438/ijcse/v7si9.3437](https://doi.org/10.26438/ijcse/v7si9.3437))

EXTRACURRICULAR ACTIVITIES

- Elected as **Secretary** for the **Engineering Graduate Student Council** 2020-2021 at the Penn State University
- Amongst the top 4 teams out of 250 in the final round of **Smart India Hackathon 2019** conducted in Coimbatore, Tamil Nadu organized by the **Government of India** for the problem statement by Apollo Hospitals