ACHYUTH MADDALA SITARAM

480-937-7812 • amaddala@asu.edu • linkedin.com/in/achyuthms • github.com/achyuth-ms • achyuth-ms.github.io

OBJECTIVE

Graduate student in Computer Engineering with academic experience in distributed database systems, cloud computing, web / mobile application development and machine learning seeking for job opportunities in Software Development / Engineering starting from July 2021.

EDUCATION

- **Master of Science: Computer Engineering** *3.71 / 4.0*
  Arizona State University, Tempe, Arizona, USA. August 2019 - May 2021
- **Bachelor of Technology: Electronics and Communication Engineering** 3.6 / 4.0 (*8.32 / 10.0)*
  Jawaharlal Nehru Technological University, Hyderabad, India. August 2015 - May 2019

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, Java, JavaScript, SQL
- **Web / Mobile development:** HTML, CSS, ReactJS, NodeJS, Django, React Native
- **Machine Learning Libraries:** NumPy, Pandas, TensorFlow, Matplotlib, PyTorch, Keras, Scikit-learn, SkImage, NLTK
- **Tools & Platforms:** Git, Hadoop, Apache Spark, OpenCV, Docker; Databases: PostgreSQL, MySQL, MongoDB; Cloud: AWS (Lambda, S3), GCP (Compute, Container Engine); IDE: Android Studio, VS code, Jupyter; OS: Windows, Linux/Ubuntu
- **Grad Coursework:** Foundation of Algorithms, Data Processing at Scale, Mobile Systems Architecture, Statistical Machine Learning, Deep Neural Networks, Artificial Neural Computation, Broadband Networks, Advanced Computer Networks, Information Assurance & Security

EXPERIENCE

- **Research Project Intern - Embedded Software,** Indian Institute of Information Technology – Guwahati, India. *May 2018 – Jul 2018*
  - Developed and tested an efficient low-cost aftermarket system to detect and prevent accidents successfully caused by negligence of vehicles present in blind spot regions, later enhanced to detect potholes and update to a central database by tagging the latitudinal and longitudinal coordinates of the location of the pothole detected in a controlled environment.

ACADEMIC PROJECTS

- **Android library for Marker-based augmented reality framework**
  - Successfully implemented an Android mobile application that interfaces with the camera to capture the camera frames and identify feature points and descriptors. Built an AR library in native C++ which matches camera features with reference features for real time pose estimation with Perspective-n-Point solver thus drawing the pose over the frame.
- **Analysis of Geospatial taxi dataset using Apache Spark**
  - Used Apache Spark over Geospatial data to find 50 hot zones from space time cubes within the New York city's dataset with entire project in Scala implementing Spatial-Temporal contains to perform range query and range join query. Further Hot cell analysis to determine statistically significant spatial hot spots and sort by their G-score.
- **Android application to perform image processing on mobile devices**
  - Built a mobile application to implement tilt shift functionality for images to generate macro images by applying Gaussian blur kernel over the input image. Accomplished the project in Java, C++ and ARM Neon languages with Neon generating the quickest results being a SIMD language which was followed by C++ and then Java.
- **Deployment of a web application over Google Cloud Platform**
  - Developed a simple web application using ASP .NET having Model View Controller template using C# which is a front-end UI web server deployed with Windows Server 2016 and provides access to customer database present on another MS SQL Server both hosted on Google Cloud Platform. Improved scalability and resilience by using GCP inbuilt Load Balancing and Auto-scaler tools.
- **Comparison of deep convolutional and conditional generative adversarial networks**
  - Implemented two major GAN architectures: Deep convolutional GAN and conditional GAN which were trained on Fashion MNIST dataset with 60000 training set to generate similar fake images. Verified that Conditional GANs perform better by measuring the accuracy of these fake images from both the models using Cosine Similarity and L2 Euclidean distance.
- **Emulation of data center over a cloud deployment**
  - Implemented data center over Mininet network emulator to emulate SDN network consisting of two level of switches, core switches and edge switches connected to two end host each for video data transfer.
  - Added traffic monitoring functionality to collect statistics and improved the performance of the data center by implementing Open Flow Control which to give the ability to control the network traffic by the software defined network for large tenants.

CERTIFICATIONS

Coursera: Algorithm Toolbox, Data Structures, Linux, Cloud: Cloud Concepts 1 & 2, Cloud Application 1 & 2; Cloud Networking ML: Deep Learning & Neural Networks, Convolutional neural networks; **IBM:** Internet of Things (IoT), Cloud Computing, Data analytics; **IIT-M:** Mobile Application Development, Python Programming; **Udemy:** Docker and Kubernetes