

Akhil Chilumuru

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EDUCATION

Texas A&M University, College Station

Master of Science in Computer Science, **GPA: 3.9/4.0**

Texas
August 2022 - May 2024

Indian Institute of Technology, Madras

B.Tech. in Electrical Engineering, **GPA: 8.05/10.0**

India
August 2014 - May 2018

TECHNICAL SKILLS

Programming: Python, Java, Javascript, Node Js, HTML/CSS, GIT, Bash, Linux, Oracle SQL, MongoDB, Angular, React, Spring

Cloud Tools: Docker, AWS, GCP, Jenkins, Red Hat Openshift Container platform, Heroku, Redis Cache

AI: PyTorch, PyTorch Lightning, Tensorflow, Hugging face, NLTK, Horovod, Pandas, Scikit-learn

PROFESSIONAL EXPERIENCE

High Performance Computing, TAMU

Graduate Research Assistant

College Station, Tx

Jun 2023 - Present

- Optimized AI/ML workloads on HPC clusters, evaluating Resnet, BERT, GPT2, Llama2, and Fastpitch models on Nvidia GPUs, Intel GPUs, and Graphcore IPUs
- Utilized distributed deep learning frameworks (Torch Run, Horovod, Mpirun, PyTorch Lightning) for efficient performance across diverse accelerators. Proficient in Python and PyTorch, with experience in CPU/GPU code profiling
- Gained familiarity with essential HPC tools: Linux, job scheduling, and module loading

Barclays

Software Engineer, Backend

Pune, India

Jan 2020 - Jan 2022

- Implemented business logic in Java leveraging Spring framework for over 10 microservices in a mobile payments platform
- Reduced card transaction processing time by 30% by migrating legacy SOAP messages to REST APIs
- Mitigated risks in decommissioning features due to COVID-19 by creating a cron job with Spring resulting in an increase in processing speed by over 6 times
- Developed a proof of concept project on splunk log extraction with Python REST client and MongoDB
- Wrote comprehensive unit and integration tests for all implemented features, ensuring robust functionality and code reliability

Barclays

Software Engineer, Frontend

Pune, India

Aug 2018 - Dec 2019

- Introduced well-documented and re-usable web components built with AngularJS; facilitated knowledge transfer through meetings with 3 teams across the business for utilizing the components
- Collaborated with a team of 15 members and built a hybrid mobile payments SDK with Ionic-Angular to be consumed by over 16 premier league clubs for season ticket purchases

PROJECTS

- Storybook Generator (Python, React, HuggingFace, Docker, AI):** Developed an innovative Storybook Generation platform, applying stable diffusion models for on-the-fly image generation. Designed and implemented a user-friendly website, seamlessly integrating pre-trained models. Successfully streamlined the visualization process for storybook writers, addressing challenges in creative illustration
- Image Classification (PyTorch, AI):** Implemented Pre-activation Wide ResNets with Group Normalization and Weight Standardized convolutions in PyTorch; trained on CIFAR-10 dataset and achieved 94.75% accuracy
- BitBid (Django, PostgreSQL, Docker, CI/CD):** Led a team of 6 members as a Scrum Master in developing an auction website using the Django framework for cryptocurrency bidding, allowing for efficient transactions. Developed a Continuous Integration/Continuous Deployment (CI/CD) pipeline utilizing GitHub workflows, Docker, and Heroku containers to automatically generate image builds and deploy the application upon code push triggers, resulting in a streamlined development process
- FinLit (PyTorch, PostgreSQL, Flask):** Created a recommendation system utilizing Matrix Factorization algorithm to optimize a non-convex objective using gradient descent and Alternating Least Squares. Enhanced user experience by ranking videos using the Cosine Similarity metric, resulting in increased video views and engagement.

LEADERSHIP / ACHIEVEMENTS

- Graded assignments and projects and assisted 70 graduate students for the course titled Deep learning
- Taught university researchers on accessing Jupyter Notebooks in HPC clusters
- Assisted teaching undergraduate students on the Python for Economics short course
- Recipient of a Scholarship from the Department of Computer Science, Texas A&M for outstanding academic excellence.