

Sriram Sohan Basa

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EDUCATION

- Northeastern University** May 2025
Master Of Science in Computer Science and Engineering Boston, MA
Coursework: Application Engineering Development, Web design/User Experience, Database Management and Design, Algorithms, High Performance Parallel Machine Learning, Data science
- JNTU** May 2022
BTech in Computer Science Hyderabad, Telangana
Coursework: Networking, Data Structures and Algorithm, Compiler Design, Machine Learning, Operating Systems, Artificial Intelligence, Unix Tools and Scripting, Data Analytics, Project Mangament

EXPERIENCE

- Capgemini** Jul 2022 - Jul 2023
Senior Software Engineer/SDE-2 Bengaluru, India
- Designed and executed robust **ETL/ELT data pipelines** for Structured and Unstructured Data **ingestion, Transformation, and Storage** using **Python** and **SQL**.
 - Implemented PySpark optimization strategies that reduced cloud infrastructure costs by **\$250,000 annually**, delivering **25%** cost savings while processing **40%** more data volume
 - Architected and deployed high-throughput architecture solutions with PySpark, boosting the efficiency of data transformation workflows by 45%.
 - Delivered data insights that enabled client revenue growth of **\$2.3M** through improved decision-making speed, reducing report generation time from **4 hours to 30 minutes**
- Capgemini** Feb 2022 - Jun 2022
Senior Analyst Intern Hyderabad, India
- Contributed to the development of **ETL/ELT data pipelines** and supported **Data Ingestion** processes, boosting client data insights by 25%.
- Verzeo** Jan 2020 - Mar 2020
Machine Learning Intern Hyderabad, India
- Fine-tuned a domain-specific **BERT** model using **PyTorch** and **Hugging Face Transformers** to extract and classify key entities in healthcare claim documents with 94% F1 score
 - Developed a **FastAPI** microservice containerized with **Docker** and deployed on **AWS ECS**, enabling real-time claim validation and reducing end-to-end latency by 30%
 - Streamlined the claim review process, resulting in a 20% reduction in processing time

PROJECTS

- Parallelized Image Captioning Pipeline**  | *Parallelization, PyTorch, Dask, Multi-GPU* May 2025
- Built an end-to-end encoder-decoder with **Bahdanau attention** in PyTorch, training on COCO with DistributedDataParallel (DDP) across **4 GPUs**, achieving a **3.8×** epoch-time speedup over single-GPU.
 - Leveraged Dask to parallelize COCO JSON ingestion on 12 cores, realizing a **5.6×** speedup.
 - Implemented GPU-based beam search yielding **0.40 images/sec** throughput and qualitative attention heatmaps for model interpretability.
 - Evaluated caption quality on 500 validation images: **BLEU-1 0.63, BLEU-4 0.25, CIDEr 0.77**.
 - Visualized and compared **SP, DP, MP, DDP**, and inference metrics in unified Matplotlib dashboards for comprehensive performance analysis.
- Tennis Analysis System**  | *YOLOv8, OpenCV, PyTorch, CV2, deep learning* Jul 2024
- Player tracking system using YOLOv8, achieving real-time performance at **60 FPS** on sample footage.
 - Fine-tuned a custom YOLOv5 model on a 15000+ images tennis dataset, reaching **90% mAP** for ball detection.
 - Deployed a PyTorch CNN for automated extraction of **14 2D court keypoints**, enabling precise spatial analysis.
 - Calculated dynamic performance metrics, quantifying player speeds and ball shot velocities up to **150 km/h**.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript, Typescript, HTML/CSS, PHP, GO, MySQL
Frameworks: React, Node, Redux, Django, Redis, Express
Tools: Git, Docker, Kubernetes, MLFlow, Postman, Linux, Windows Powershell, Power BI, Tableau, Jira, Jenkins
Cloud: Azure, AWS, EC2, ECS, ECR, S3, Route 53, Google Cloud Platform, SageMaker
Libraries: Keras, PyTorch, Computer Vision, TensorFlow, SVM, CNN, NLP, PySpark, Hive, MapReduce, Spark
Additional Skills: Shell Script, Firmware, Computer Architecture, System Integration, GPU, CUDA