LIKITH PONNANNA, PATRAPANDA BELLIAPPA

Boston, MA | 617-959-7378 | contact@likithponnanna.com | linkedin.com/in/likith-ponnanna/ | github.com/likithponnanna

EDUCATION

Khoury College of Computer Sciences — **Northeastern University, Boston, MA**
Master of Science in Computer Science — *Sept 2018 - Dec 2020*
Related Courses: Artificial Intelligence, Machine Learning, Web Development, Managing Software Development *GPA: 3.88/4.0*

Nitte Meenakshi Insitute of Technology — **Visvesvaraya Technological University, India**
Bachelor of Engineering in Computer Science — *Aug 2012 - May 2016*
Related Courses: Data Structures, DBMS, Operating System, Cloud Computing, Genetic Algorithms. *GPA: 8.5/10.0*

TECHNICAL SKILLS

Languages: C, C++, Java, Python, JavaScript, Go, Scala.
MLOps: AWS SageMaker, Google Vertex AI, MLflow.
Database: NoSQL, SQLite, MongoDB, PostgreSQL, MySQL.
ML Frameworks: TensorFlow, Scikit-learn, OpenCV, MATLAB, Keras, PyTorch, Caffe, MLlib, Rapids.
Web Technologies: HTML5/CSS3, AngularJS, NodeJS, ReactJS, Spring Boot, jQuery, JavaScript, REST, gRPC, Flask.
Platforms: Amazon Web Services [*Certified ML - Specialty*], Azure, Google Cloud Platform, Heroku, NVIDIA Fleet Command.
Scaling and Optimization: Kafka, Kubernetes, Docker, Deepstream, Triton, Fleet Command, Metropolis, TAO, TensorRT, ONNX.

WORK EXPERIENCE

Quantiphi — **Marlborough, MA, USA**
Machine Learning Engineer — *Mar 2020 - Present*
- Co-architected & developed a real-time multi-stream IVA solution to detect breaches utilizing a hybrid cloud (AWS & GCP).
- Pruned and Quantized models and utilized NVIDIA Deepstream stack to bring down total latency of pipeline by 50%.
- Prototyped a high-res video stitching app deployed on AWS with custom projection surface, reducing manual work by 90%.
- Developed and deployed a multi engine super resolution framework on Vertex AI, allowing clients to remonetize legacy footage.
- A transformer based multi-modal spatial sensor fusion network was developed on PyTorch to predict failures in rail systems.

Kodak Alaris - AI Foundry *(acquired by Guaranteed Rate)* — **Boston, MA, USA**
Machine Learning Engineer (Co-op) — *May 2019 - Dec 2019*
- Trained an Object detection model (F-RCNN) built on TensorFlow with 0.95 F1-score to detect and further classify PDF documents.
- Designed a signature fraud/anomaly detection engine utilizing mask-RCNN and AutoEncoders with 94% accuracy.
- Devised an OCR engine to detect document completeness using CNN + bi-directional LSTM's with a WER of 2.6% on data corpus.
- Parsed & extracted complex nested key-value pairs from financial docs (W2, pay stub etc.,) with a key detection model (PyTorch).
- Worked on a hybrid OCR (Cloud & On-prem) framework, resulting in 25% time savings to support new documents.
- Created an image cleanup, denoising and illumination correction framework, increasing text extraction accuracy by 40%.
- Built transformer based model to find language anomaly and NER tagging, reducing further 20% burden to loan originators.

Viaggio Technologies Pvt. Ltd. — **Bengaluru, India**
Data Scientist / Co-Founder — *Sept 2016 - June 2018*
- Refined and optimized machine learning models (TensorFlow, Sci-Kit Learn, Matlab) to predict natural disasters in urban spaces leveraging time series forecasting methodologies such as autoregressive models and LSTM's with north of 85% modeling accuracy.
- Worked on unsupervised models such as k-means, t-sne, Gaussian Mixture Models, PCA to reduce annotation times by over 50%.
- Evaluated client models and proposed model improvement strategies which drove improvements in specific client KPI's.
- Managed and worked on web and mobile applications, based on MEAN and MERN stack, and actively mentored employees.

PERSONAL PROJECTS

Fully Attentive Vision - Language Navigation (VLN) agent with Beam Search
- Built a VLN agent to traverse novel environment depicted by natural language commands on top of Matterport R2R data set with a 16% improvement over base model leveraging & Reinforcement Learning, 3D Perception, BERT & Transformer architecture.
- Leveraged SLAM & beam search module to achieve results with a navigation error of 4m and oracle success rates north of 70%.

Smart Product Suggestion Mirror
- Developed a system utilizing Facial Recognition and feature model to extract physical actionable insights of a customer.
- Employed clustering methods & collaborative filters with description embeddings to provide product recommendations.
- Trained facial recognition based on ResNet-50 backbone and triplet loss to attain about 85% accuracy on video streams.

ACHIEVEMENTS / AWARDS

- Recognized as Q-Rising Star for exceptional contributions to multiple projects, and driving new client engagements. [2022]
- Inducted into GRAIL at Northeastern University for Vision and Language research contributions (listed alumni) [2022]
- Won team quarterback award at AI Foundry for delivering key feature ahead of time, resulting in 3M USD in sales. [2019]
- Published 2 academic research papers in IOT & Machine Learning journal with a CV paper in pipeline. (Google Scholar) [2017]