

Shounak Shastri

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SUMMARY

Ph.D. with 4+ years of experience developing and shipping Machine Learning (ML) products at scale in fast-paced and dynamic environment. Specialized in building data-driven solutions using Statistical Modeling, Natural Language Processing (NLP), Large Language Models and Computer Vision that deliver measurable business impact (23% productivity gain, 81% reduction in compliance violations). Experienced in cross-functional collaboration with engineering and product teams to design and deploy AI/ML systems from research to production while implementing Responsible AI (RAI) practices.

EXPERIENCE

KamerAI Pvt. Ltd. ([Website](#))

Chennai, TN, IN

Technical Analyst-Data Science (Current) / Sr. Software Engineer (4 years)

May 2021 – Present

- Owned development and deployment of data-driven ML solution at factories of major manufacturing clients. Applied statistical modeling and data mining to determine cause and effect relationships for process inefficiencies and implemented solutions that increased productivity metrics by 23%.
- Fine-tuned LLM (LLaMA 3.2-3B) using the Hugging Face's Transformers library on 2500+ technical documents to extract structured, domain specific data. Designed the dataset, defined evaluation techniques and metrics and integrated results into performance dashboards in collaboration with business, engineering and product teams.
- Developed scalable data pipeline for client-side compliance data and led development of computer vision-based PPE monitoring system, resulting in 81% reduction in violations across customer facilities. Implemented RAI policies to ensure user privacy and ethical and unbiased reporting of data.
- Authored technical documentation and contributed to intellectual property efforts (patent filings) to strengthen the company's AI portfolio.
- Built tools that enabled non-technical staff to quickly collect data, train models and deploy using the customer's cloud infrastructure.
- Mentored trainees and interns in model training and evaluation techniques while serving as a reviewer for academic conferences and publications.

VIT-Vellore

Vellore, TN, IN

Teaching and Research Assistant (4 years)

Jan 2016 – Jan 2020

- Research on Steganography algorithms for secure communication resulting in 7 peer-reviewed publications.
- Taught courses to classes of over 60 students and assisted the professors in practical and revision sessions. Mentored over 30 undergraduate students leading to conference presentations and prototypes.

NOTABLE PROJECTS

- **GenAI Productionisation:** Designed and implemented end-to-end LLM fine-tuning pipeline for extracting structured JSON data from chemical analysis documents. Defined evaluation techniques and metrics to measure extraction accuracy and model robustness. Collaborated with business and engineering teams to integrate results into a live dashboard, reducing manual data entry time by approximately 80%.
- **KamerAI Productivity Solution:** Led development and production deployment of the KamerAI Productivity Solution for 2 major manufacturing customers over 25 stages in their production line. Applied statistical analysis to daily cycle and ergonomics data to identify inefficiencies and define areas for improvement. Set up data-pipelines to train Action Recognition models and give insights into the production line in real time. Collaborated with the customers and the KamerAI engineering team to develop productivity and ergonomics dashboards. Achieved 100% error reduction across 7 stages and 23% improvement in overall productivity.
- **KamerAI Safety Solution:** Collaborated with a team to develop Object Monitoring and Compliance application for deployment at the customer's warehouses and factories. Leveraged the customer's established CCTV network to collect data and monitor PPE and MHE compliance. Trained a YOLO model for object detection to detect violations and reported in real time. Resulted in 81% reduction in overall violations.

EDUCATION

- **Vellore Institute of Technology** Vellore, TN, India
Doctorate (Ph.D.) in Steganography Algorithms Jun 2015 – Dec 2020
- **Vellore Institute of Technology** Vellore, TN, India
Master of Technology (M.Tech.) in Communication Engineering Jun 2013 – May 2015
- **K. J. Somaiya College of Engineering** Mumbai, MH, India
Bachelor of Engineering (B.E.) in Electronics Engineering Aug 2007 – Jul 2012

TECHNICAL SKILLS & CORE COMPETENCIES

- **Programming & Development:** Python, R (basic), MATLAB, SQL, Git, Linux
- **Machine Learning & AI:** Deep Learning, Computer Vision, Natural Language Processing (NLP), Large Language Models (LLMs), Small Language Models (SLMs), Transformer Models, Generative AI, Statistical Modeling, Data Mining, Numerical Optimization
- **ML, AI & Data Science Toolkits:** TensorFlow, PyTorch, NumPy, SciPy, Scikit-learn, Pandas, Matplotlib, OpenCV, Nvidia TAO, Unsloth, YOLO/Ultralytics, Hugging Face Transformers
- **Data Science & Analytics:** Experimental Design, Confidence Intervals, A/B Testing, Hypothesis Testing, Predictive Analytics
- **MLOps & ML Model Deployment:** Docker, ClearML, AWS (EC2, S3, SageMaker)
- **Leadership & Collaboration:** Cross-functional Leadership, Stakeholder Management, Technical Guidance & Mentoring

KEY ACHIEVEMENTS

- **Academic Engagement:** 7 peer-reviewed publications in international journals and conferences. Served as a reviewer for academic conferences and publications. [ORCID Link](#)
- **Awards:** Received 2 research awards during doctorate program and 2 performance awards at KamerAI for impactful contributions.
- **Business Impact:** Achieved 80% reduction in manual document processing, 81% improvement in safety compliance, 23% increase in manufacturing productivity
- **Mentoring and Leadership:** Successfully mentored 30+ students and multiple trainees/interns in machine learning, data science and model deployment practices.