

# Krishnkant (Krish) Swarnkar

New York NY | (413) 210-5025 | [kswarnkar9127@gmail.com](mailto:kswarnkar9127@gmail.com) | [Linkedin](#) | [Scholar](#)

AI Research Engineer building production LLM and RAG systems for financial intelligence. Experienced in training and deploying deep learning models, with strengths in system design and evaluation for quality and reliability.

## Education

**University of Massachusetts, Amherst** — MS, Computer Science (Research Track, AI) Sep 2019 - May 2021  
GPA: 4.0/4.0 | Selected coursework: *Reinforcement Learning, Probabilistic Graphical Models, Statistical Inference*

**IIT (Indian Institute of Technology) BHU** — BTech, Computer Science (Honors) Jul 2015 - May 2019  
CPI: 9.14/10.0

## Core Skills

Python, C++ | PyTorch, Transformers, LangChain, Langfuse | FastAPI, Prometheus, Grafana, Docker, Kubernetes | LLMs, RAG, IR, Embeddings, Reranking, Summarization, Extraction, Classification, Natural Language Understanding

## Professional Experience

**Alphasense Inc** Jun 2021 - Present  
*Senior AI Research Engineer* New York, NY

- Developed key components of an Agentic Market Research Copilot, powered by RAG, including planning/ orchestration, query understanding, tools (search and analytics), and citation grounding, serving over 20k queries daily.
- Optimized average TTFT of a Gen AI Market Research Copilot to 4.5s without compromising the quality through LLM based planning, query routing, and efficient conversational context handling.
- Automated expert call summarization and built earnings call highlights, lowlights, and trending topics summarization modules using RAG and prompt engineering. Trained and deployed a sentiment analysis guardrail for LLaMA2-70B summaries with 99%+ accuracy, and reduced hallucinations via context-aware chunking.
- Designed an end-to-end M&A extraction pipeline from press and news achieving 99%+ buyer-target recall, including annotation guiding, BERT NER experiments, and frontier LLM evaluations; Built a prototype Deal Screener (buyer, target, price, date, etc.), while owning legacy Boilerplate Detection and Themes Extraction systems for downstream content discovery.
- Designed and deployed a KPI extraction system (quantized Electra model), improving Amount-KPI accuracy by 18.7% (F1 by 14.4%) over a rule-based baseline on earnings calls, enabling reliable KPI ingestion for downstream analytics.

**Robert Bosch LLC** May 2020 - Aug 2020  
*NLU Research Intern* Sunnyvale, CA

- Implemented state-of-the-art slot filling and intent detection models in PyTorch for natural language understanding.
- Proposed a novel approach delivering +2% absolute F1 over the prior state of the art and extended it to BERT.

## Publications

- Text Processing Like Humans Do: Visually Attacking and Shielding NLP Systems. **NAACL-HLT 2019**. [[arXiv](#)]
- Improved Cross-Lingual Question Retrieval for Community Question Answering. **WWW 2019**. [[ACM](#)]
- Di-LSTM Contrast: A Deep Neural Network for Metaphor Detection. **FigLang (NAACL) 2018**. [[ACL](#)]

## Academic Research Experience

**Information Extraction and Synthesis Lab (IESL), UMass Amherst** *Research Project* Jan 2020 - May 2021  
• Quantified and reduced direct stereotypical gender bias in Word2Vec embeddings through data augmentation, while demonstrating a deeper contextualization of biases in ELMo and BERT embeddings. Advisor: *Prof. Andrew McCallum*.

**Ubiquitous Knowledge Processing Lab (UKP), TU Darmstadt** *Research Intern* May 2018 - Nov 2018  
• Investigated visual adversaries attacking NLP models, causing performance drops over 85% and proposed defenses to improve robustness. Leveraged domain adaptation and back-translation data enhancement to improve extended cross-lingual (German to English) question retrieval MRR by +25pp. Advisor: *Prof. Iryna Gurevych*.

**Natural Language Processing Research Lab, IIT (BHU)** *Research Intern* May 2017 - Jul 2017  
• Built a pipeline-based QA system converting unstructured text into structured representations and answering queries using graph matching, dependency relations, and rules. Advisor: *Prof. Anil Kumar Singh, Prof. Rajeev Sangal*

## Awards / Service

- Reviewer, ACL 2020 and NAACL 2018 FigLang Workshop
- Honorable Mention, ACM-ICPC Regionals