# Jeongsik Park

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## Education

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|---|---|---|
| **University of Southern California** | Master of Science, Computer Science (AI Specialization) | May 2026 |
| **University of Texas at Dallas** | Bachelor of Science, Computer Science (GPA: 3.94) | May 2024 |

## Technical Skills

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|---|---|
| **AI Engineering** | Python, PyTorch, LangGraph, LangChain, LLMs, VLMs, RAG, Digital Human |
| **Cloud / Infra.** | AWS, FastAPI, Flask, Docker, Kubernetes, Helm, Terraform, Prometheus, Grafana |
| **AI Research** | Academic Reviewer (AAAI '26, ICASSP '25), LaTeX |

## Publications

[1] (**EMNLP** 2025 Findings) **MemeInterpret: Towards An All-in-One Dataset for Meme Understanding** [paper]
  J. Park, *et al* | Instruction-Tuning (LLaVA, T5, CLIP), Quantization (QLoRA), LLM-as-a-Judge, Qualitative Analysis

[2] (**SIGdial** 2024) **MemeIntent: Benchmarking Intent Description Generation for Memes** [paper]
  J. Park, *et al* | LLM/VLM, Evaluation (n-gram, embedding, human), Synthetic-data Generation, Data-Annotation

[3] (under review) **Active Learning for Hate Speech Detection**
  J. Park, *et al* | Active-learning, Data-mining, Rule-based ML, Fine-tuning (BERTweet)

## Work Experience

**General Electric – GE HealthCare** — May 2025 – Present
*AI Engineer Intern/Co-op* — Bellevue, WA

- **Autonomous X-ray** (AI Engineering)
  - Orchestrated dual LangGraph workflows sharing Redis state, coordinating LLM-only for patient check-in and LLM/VLM agents for examination, and pose detection (RSNA showcase [link]).
  - Implemented LangGraph state-aware feedback system integrating LLM and VLM agents to generate contextual pose-correction guidance, and developed heuristic detection algorithm leveraging ROUGE-L evaluation to refine instruction quality, reducing error rate by 80%.
  - Built LLM-as-a-Judge pipeline with structured JSON parsing and asynchronous batched inference, enabling iterative self-evaluation and 12× faster latency.
- **Autonomous X-ray** (AI Infrastructure)
  - Automated Digital Human (DH) deployment on AWS using Terraform, resolving encryption/tagging blockers for compliance and enabling six developers to test independently pre-on-prem rollout.
  - Built React-based observability dashboard using Flask API to stream Redis data for real-time backend monitoring.
  - Reconfigured Helm deployments in NVIDIA UCS to validate full microservices on a single GPU and migrated TTS from ElevenLabs to on-prem Riva via Helm and ACE updates, boosting efficiency and security while eliminating API costs.
  - Collaborated with UX team to tune Audio-to-Face animations for improved lip-sync accuracy and realism.
  - Simulated network throttling to validate stability and identify bottlenecks before live deployment.
- **Automatic Report Generation** (AI Research)
  - Conducted comparative radiology report experiments using VLMs (Opus-4, GPT-4o, MedGemma) via AWS Bedrock/Azure OpenAI and evaluated outputs with RAG-as-a-Judge to guide large-scale fine-tuning.

**Human Language Technology Research Institute** — August 2022 – May 2025
*NLP Undergraduate Researcher (Advisor: Dr. Vincent Ng)* — Richardson, TX

- **NLP, Multimodal** (AI Research)
  - Led creation of first unified meme-understanding dataset with a novel annotation pipeline, achieving SOTA performance across interpretation, explanation, and categorization tasks.
  - Introduced intent description generation task incorporating external knowledge, improving LLM/VLM-based meme interpretation by 43% via in-context learning.
  - Proposed active learning strategy for hate speech detection, mitigating topic dependency while reducing annotation cost by 90% and outperforming SOTA baselines.
- **Selected Activities** (Research Mentor, ML Project Coordinator)
  - Supervised four high school students on ML projects (CLIP, BLIP, OpenCV), resulting in a co-authored publication.
  - Mentored five NSF REU undergraduates on LLM and deep-learning projects (CNN/LSTM, TFR-BERT).
  - Designed Course project (Intro to ML, Honors) on data augmentation and QA tasks.