Jiacheng Pang

📞 +1-857-400-1382 | ✉ pangj@usc.edu | 🔗 LinkedIn | ⭕ Github | 🌐 Personal Website

Los Angeles, California 90007, USA

AREAS OF INTEREST

Natural Language Processing, Multimodality, Multi-agent systems, Large Language Models, Benchmarking

EDUCATION

- **University of Southern California** *Jan. 2024 - Dec. 2025*
  M.S. in Computer Science (Artificial Intelligence) Los Angeles, USA
  ◦ GPA: 3.91/4.00

- **Northeastern University** *Sept. 2018 - May 2022*
  B.S. in Computer Science, Minor in Mathematics Boston, USA
  ◦ GPA: 3.74/4.00
  ◦ Honors: magna cum laude, Dean's List of all semesters

RESEARCH EXPERIENCE

- **Intelligent Human Perception Lab, USC Institute for Creative Technologies [🌐]** *June 2025 - Present*
  Graduate Researcher Los Angeles, USA
  ◦ Collaborated with Prof. Mohammad Soleymani on multimodal LLMs to benchmark and improve their affective understanding and multimodal representations
  ◦ Designed an adversarial paralinguistic benchmark (**28k verified examples**) with systematically mismatched textual and acoustic cues, diagnosing multimodal hallucination in speech LLMs, and performed **linear probing** and **attention analysis** to examine the cause
  ◦ Enhanced emotion reasoning with preference optimization (**13% ↑ UAR** on DFEW over EmotionLLaMA) and carried out **extensive baseline experiments** with multimodal LLMs (AffectGPT, VITA-1.5, and VideoLLaMA 3, etc.) across various audiovisual datasets (**paper under review**)

- **Melady Lab, USC Viterbi School of Engineering [🌐]** *June 2025 - Present*
  Graduate Researcher Los Angeles, USA
  ◦ Collaborated with Prof. Yan Liu, and explored Conditional Listwise Policy Optimization (based on GRPO) for group decision-making vs. baselines, such as GroupDebate, centralized arbiter (**3%↑ accuracy** on MMLU over GroupDebate) (**paper under review**)
  ◦ Co-authored **two survey papers** on 1) time series reasoning with LLMs and 2) LLM based agentic systems with multi-agent reinforcement learning (**paper under review**)

PUBLICATIONS

- **VoxParadox: Speech LLMs Hear the Words, Not the Voice**.
  Jiacheng Pang, Ashutosh Chaubey, Mohammad Soleymani, preprint, submitting to ICML 2026.

- **A Survey of Reasoning and Agentic Systems in Time Series with Large Language Models**.
  Ching Chang, Yidan Shi, Defu Cao, Wei Yang, Jeehyun Hwang, Haixin Wang, **Jiacheng Pang**, Wei Wang, Yan Liu, Wen-Chih Peng, Tien-Fu Chen. 2025. Under review at TMLR. [pdf].

- More under double-blind review at ICLR.

PROJECTS

- **VoxParadox: Adversarial Paralinguistic Benchmark for Speech LLMs** *June 2025 - Present*
  Adviser: Prof. Mohammad Soleymani (Research Associate Professor, USC)
  ◦ Implemented a content–style contradiction testbed to evaluate if speech LLMs hallucinate based on transcripts when paralinguistic cues carry the true label
  ◦ Created a benchmark (**28k speech clips** and QA pairs) with **controlled text-to-speech** generation tools (OpenAI TTS, Azure, ElevenLabs, and CosyVoice 2) for **14 paralinguistic tasks**, such as age, gender, pitch, speed
  ◦ Found transcript overreliance in multiple major speech LLMs, and explored methods to diagnose and alleviate this issue, including **linear probing**, **projection of middle-layer** audio embeddings, and **attention scaling**

- **MSECap: Fusion Based Audio-textual Speech Emotion Captioning** *Jan. 2025 - June 2025*
  Adviser: Prof. Mohammad Soleymani (Research Associate Professor, USC) [⭕]
  ◦ Designed **multimodal feature extractors** with three **fusion** strategies: early, late, and X-Norm fusion
  ◦ Designed **eature adapters** for representation alignment and prefix-conditioned decoders with pretrained LLM
  ◦ Implemented **training and evaluation pipelines** with IEMOCAP, X-Norm achieving **20%↑ GPT-evaluated match rate** compared with early/late baselines, showing high potential for improvement with more data

- **PoisonedGraphRAG: Knowledge Corruption Attacks Against GraphRAG** *Sept. 2024 - Dec. 2024*
  Adviser: Prof. Yan Liu (Full Professor, USC) [O]
  ◦ Developed a **benchmark dataset** with a highly inter-connected graphical structure of named entities
  ◦ Crafted poison texts based on generation condition and retrieval condition (introduced in PoisonedRAG) and achieved up to **70% attack success rate** against GraphRAG (with GPT-4o-mini)
  ◦ Designed extensive per-question indexing **testing pipeline** to prevent inter-poison interference, and conducted experiments under various hyper-parameter settings

- **From Gold Labels to Trap Labels: Investigating the Reliability of SNLI** *Sept. 2024 - Dec. 2024*
  Adviser: Swabha Swayamdipta (Assistant Professor, USC) [O]
  ◦ Proposed a **new method** for detecting benchmark leakage - exposing model overfitting to mislabeled or low-confidence examples - and conducted experiments with the SNLI corpus
  ◦ Identified dataset outliers with unanimous aggregation of four BERT based model and extensive human annotation
  ◦ Verified outliers with clustered Borda ranking, utilizing model prediction confidence as an additional safeguard for identification of mislabeled examples

- **Artist Search: Full-Stack Web and Android Development** *Jan. 2025 - May 2025*
  Adviser: Marco Papa (Senior Lecturer, USC) [⊕]
  ◦ Developed a **responsive web application** using Angular, Node.js/Express, Bootstrap and MongoDB, deployed via GCP App Engine, equipped with secure account management
  ◦ Designed a native Android counterpart with Kotlin, adapting web functionalities to a **mobile-first UI**

INTERNSHIP EXPERIENCE

- **RUIS Software Co., Ltd. [⊕]** *Sept. 2022 - Nov. 2023*
  Software Engineer Yinchuan, China
  ◦ Extended the massive text processing capability of RUIS information system backend with BERT-based language models finetuned with proprietary datasets, achieving **91% accuracy** on document classification and rating, speeding up the pipeline by **over 20x**
  ◦ Participated in the development and maintenance of RUIS internal management platform using Express.js

- **YUSUR Technology Co., Ltd. [⊕]** *Jan. 2021 - July 2021*
  Data Science Researcher Intern Beijing, China
  ◦ Contributed to YUSUR's DPU research project, aimed to accelerate database operations using specially designed external computational devices
  ◦ Benchmarked and tuned DPU-accelerated cluster computation on Apache Spark and XGBoost
  ◦ Researched performance bottlenecks for Apache Spark (especially in shuffling) and formulated solutions for better performance on targeted conditions, achieving up to a $10\times$ **speedup** during proof-of-concept testing for clients

SERVICE

- **Khoury College of Computer Sciences [⊕]** *Jan. 2020 - June 2020*
  TA for Computer Science Fundamentals II (with Prof. Amit Shesh) Boston, USA
  ◦ Held weekly lab sessions and office hours to help **over 200 students** understand class materials and graded classwork and exams, averaging 10 - 20 hours of work time per week

SKILLS

- **Programming Languages:** Python, Java, C++, SQL, JavaScript, HTML, CSS
- **AI/ML Tools & Frameworks:** PyTorch, Transformers, NumPy, Pandas
- **Engineering Tools & Frameworks:** Apache Spark, Angular, Node.js, Express.js, Bootstrap, MongoDB, GCP
- **Tools:** VSCode, Git, Anaconda
- **Tests:** GRE: 332 + 4, TOEFL: 115 (30, 29, 28, 28)