Pengfei Zhang Applying for Summer 2025 Internship (starting June 2025) with F1 OPT
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EDUCATION

Year	Degree	Institute	GPA
Fall 2022 -	PHD student in Computer Science	University of California, Irvine	3.93/4.0
2017 - 2021	B.Eng in Computer Science	University of Science and Technology of China	3.45/4.3

TECHNICAL SKILLS

- Languages. Python, C++, Java, Web Frontend Languages (Vue Framework), Verilog.
- Frameworks. Pytorch, Kafka, Spring Boot, Vue (Ant Design), Langchain, Flask, MySQL, Redis.
- Research Fields: Multimodal Generation, Diffusion models, Retrieval Augmented Generation, Speech Generation, Text/Audio-driven Motion Synthesis, Large Language Models

PUBLICATIONS

- **Selected Publications**
  5. **KinMo: Kinematic-aware Human Motion Understanding and Generation** *Submitted to ICCV 2025*
     - Designed an automatic LVM-based dataset collection pipeline that enhances the existing text-motion benchmark by incorporating proposed novel motion representation that decomposes into distinct body movements.
     - Introduced a hierarchical motion semantics approach that progressively fuses joint-group level movements and interaction information into the global action-level semantics for modality alignment.
  4. **Contextual Gesture: Co-Speech Gesture Video Generation through Context-aware Gesture Representation** *Submitted to ICML 2025*
     - A framework that improves co-speech gesture video generation through three innovative components: (1) a chronological speech-gesture alignment that temporally connects two modalities, (2) a contextualized gesture tokenization that incorporate speech context into motion pattern representation through distillation
  3. **MedSpeak: Knowledge Enhanced ASR Error Correction framework for Spoken Medical Question Answering** *submitted to Interspeech 2025*
     - a novel knowledge-enhanced retrieval augmented generation framework through a medical knowledge graph (KG) capturing semantic relationships and phonetic similarities between medical terms
  2. **DEMENTIA-PLAN: An Agent-Based Framework for Multi-Knowledge Graph Retrieval-Augmented Generation in Dementia Care.** *AAAI W*
  1. **Handformer2T: A Lightweight Regression-based model for Interacting Hands Pose Estimation from a single RGB Image** *WACV 2024*
     - Designed a lightweight but high performance model which proposed hand-level tokenization in the transformer based model for interacting hand pose estimation, where only one token was used for each hand.

SOFTWARE AND PROGRAMMING PROJECTS

- **Distributed Chatroom with LLaMa-Powered Summarization** *Jan. 2024 - Mar. 2024*
  - Implemented A Multi-topic Web Chatroom which can provide backup on previous conversations and LLaMa Powered summarizations after each refresh
  - Developed the frontend using React, the backend using Spring Boot (Java) and Kafka, and the database using Redis.
  - Implemented Cache Feature on each summarization, which largely decreases latency and improves fault tolerance
- **OpenCHA - an Automatic Conversational Health Agent** *Oct. 2023 - Present* (Collaborative Lab Projects)
  - Implemented a Conversational Health Agent framework leveraging LLMs-based agents (ReAct) as problem solvers, which can address health tasks like stress estimation. Built the frontend using Vue and backend using flask.

Working Experience

- Research Science Intern at Flawless. AI. Inc in Los Angeles *Jun. 2024 - Sep. 2024*
  - Research on Human Text/Audio-driven Motion Understanding, Generation, Editing, and Rendering (Conf. 4, 5)
- Research Intern in the Chinese University of Hong Kong in Hong Kong *May. 2022 - Aug. 2022*

AWARDS

- Dean's award from UCI *2022-2023*
- National Encouragement Scholarship (top 20%) from USTC *2020*