



USC University of
Southern California

Research Positions in the AI-Reinforce MedTech Program

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Research positions are available within the AI-Reinforce MedTech Program at Dr. Hayoun Lee's laboratory in the Keck School of Medicine, USC.

The public release of ChatGPT in late 2022 ignited a surge of applications leveraging Artificial Intelligence (AI), including Large Language Models (LLMs). This trend has rapidly accelerated within just two years, extending its reach into the medical technology field. New research findings are being published at an unprecedented rate. However, applying AI to medicine presents unique challenges. Ensuring a high level of accuracy in clinical diagnosis is paramount, alongside stringent privacy protections for sensitive medical records. Additionally, maintaining cost-efficiency in AI hardware is crucial for making these advancements accessible within public healthcare systems.

The AI-Reinforce MedTech Program brings undergraduate students, graduate students, and medical students from diverse academic backgrounds to engage in AI-drive medical research. Through collaborative teamwork, students will gain the knowledge and skills needed to tackle complex clinical challenges and develop innovative solutions for the future of healthcare.

Students will be assigned to one of the following research project teams:

- **Deep Learning for Clinical Diagnostics:** Apply deep learning algorithms to develop innovative solutions for clinical diagnostic applications
- **Advanced Robotics AI:** Explore and implement advanced robotics AI algorithms for clinical applications
- **Secure Cloud Computing for Public Distribution:** Build secure cloud computing infrastructures designed for public distribution

- **Democratization of AI Hardware:** Develop strategies for making AI hardware more accessible and affordable within the public healthcare system
- **Machine Learning for Clinical Decision Making:** Utilize machine learning algorithms to enhance clinical decision-making processes
- **Environment Monitoring for Pathogenic Bacteria:** Detect pathogenic bacteria in the environment using an affordable, portable lab system powered by cost-effective AI processor
- **Antimicrobial Resistance Detection in Hospitals:** Identify antimicrobial resistance strains in hospitals using an accessible, open-source lab platform combined with AI analysis.

To apply, send your CV along with official or unofficial transcript to hayoun@usc.edu