

PhD Fellowship available Spring/Fall 2027 — AI in Biomedical Engineering

H-Lab | Department of Computer Science | University of Colorado at Colorado Springs (UCCS)

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About the Lab

The newly established H-Lab, directed by Dr. Huang, sits at the boundary between physics, engineering, computer science, and biomedicine. Dr. Huang was trained as a biomedical engineer and created ROAST, the field-standard open-source pipeline for personalized modeling of transcranial electric stimulation (TES), spending five years helping commercialize it in industry before returning to academia. He has also built machine-learning systems, developed with practicing radiologists, that detect disease from medical images at expert-level accuracy. The H-Lab's current interests focus on developing AI systems for biomedical engineering and bioinformatics. Future interests include understanding modern deep-learning systems, embodied AI, neuromorphic computing, and artificial life. For the lab's longer-term research visions, please refer to the [PI's webpage](#).

Research directions

We are recruiting one PhD student ([fully funded with stipend and tuition waiver for 2 years](#)) to help build AI systems for biomedical engineering & informatics. Specific research topics include but not limited to:

- Algorithms development
- Image processing, computer vision
- Computational photography
- Finite element modeling
- Machine learning, deep learning
- Large language models
- Open-source software development
- Synergistic activities from topics above with AI, such as agentic AI, AI for scientists, and AI for engineers
- Philosophy of AI

The successful candidate will have access to deep-learning machines and high-performance computing clusters at UCCS with hundreds of GPUs. The successful candidate will also have opportunities to collaborate with the medical device industry and prestigious medical centers.

If any of this excites you, we want to hear from you.

What you must have:

- Bachelor's and/or Master's degree in computer science, electrical engineering, biomedical engineering, physics, applied mathematics, or related areas.
- Good programming knowledge and experience with Python and/or MATLAB.
- Fluent written and spoken English.
- Enthusiasm for cutting-edge research, team spirit, and capability of independent problem-solving.

It's nice to also have:

- Interest, prior knowledge and experience in one or more of the following: machine learning, deep learning, computational neuroscience, biomedical signal/image processing, finite element modeling, scientific computing, large language models, agentic AI, and philosophy of AI
- Prior research experience (thesis, publications, open-source contributions)

How to Apply

The position will open in Spring 2027 or Fall 2027 semester. Interested applicants should apply via [the department website](#) by October 1st for the Spring admission or by February 1st for the Fall admission. Applicants should note in their Personal Statement on which research direction(s) above interest you most and why, and mention Dr. Huang as your doctoral advisor. Applicants are also encouraged to send their CV and unofficial transcript in PDF format to Dr. Huang at yhuang6@uccs.edu.

Why UCCS Computer Science

One of the few departments nationally offering both a PhD in Computer Science and a standalone PhD in Cybersecurity — the latter designated an NSA National Center of Academic Excellence in Cyber Research (CAE-R), the first such designation in Colorado.

Faculty expertise spanning AI, machine learning, computer vision, NLP, biomedical informatics, cybersecurity, computer networks, software engineering, and multiagent systems, across 10 cross-disciplinary research labs.

Research funded by NSF, DoD, and AFOSR, including four NSF CAREER awards and an AFOSR Young Investigator award among current faculty.

Located in Colorado Springs, with deep aerospace, defense, and tech industry ties (alumni at Google, IBM, Lockheed Martin, MITRE, Northrop Grumman, and beyond) and a fast-growing research profile.