

Postdoctoral Scholar  
Case Western Reserve University

Direct Link: <https://www.AcademicKeys.com/r?job=239543>

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Posted Jul. 12, 2024, set to expire Nov. 11, 2024

**Job Title** Postdoctoral Scholar

**Department** Mechanical and Aerospace Engineering

<https://engineering.case.edu/mechanical-and-aerospace-engineering>

**Institution** Case Western Reserve University  
Cleveland, Ohio

**Date Posted** Jul. 12, 2024

**Application Deadline** Open until filled

**Position Start Date** Available Immediately

**Job Categories** Post-Doc

**Academic Field(s)** Mechanical Engineering  
Engineering Physics  
Aerospace/Aeronautical/Astronautics

**Job Website** [https://engineering.case.edu/sites/default/files/Postdoctoral\\_Job\\_Desc\\_2023.pdf](https://engineering.case.edu/sites/default/files/Postdoctoral_Job_Desc_2023.pdf)

**Apply By Email** [chirag.kharangate@case.edu](mailto:chirag.kharangate@case.edu)

**Job Description**

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Title: Postdoctoral Scholar

Department: Mechanical and Aerospace Engineering

School: Case School of Engineering

Location: 10900 Euclid Ave Cleveland OH 44106

Supervisor Name and Title: Chirag Kharangate, Assistant Professor

Contact information: Email: [chirag.kharangate@case.edu](mailto:chirag.kharangate@case.edu); Phone: (216) 368-2029

### POSITION OBJECTIVE

Postdoctoral position in the Two-Phase Flow and Thermal Management Lab at Case Western Reserve University to do research in two-phase flows with focus on machine learning application to phase-change thermal management systems, including autonomous vision and Physics-informed neural networks (PINNs).

### ESSENTIAL FUNCTIONS

1. Develop computer vision tools to investigate flow boiling imaging data from experiments (20%)
2. Develop physics-informed machine learning modeling tools and validate with experiments performed in the lab (20%)
3. Perform experiments in two-phase flows for boiling and condensation (15%)
4. Perform CFD simulations in two-phase flows for boiling and condensation (15%)
5. Publish peer-reviewed journal papers and attend international conferences to disseminate and share research (20%)
6. Coordinate with sponsors for meeting research project deliverables (10%)
7. Advise graduate and undergraduate students at the Two-Phase Flow and Thermal Management Lab in conducting their research projects relating to boiling and condensation experiments and modeling (10%)

### NONESSENTIAL FUNCTIONS

Attend department and school education and outreach activities

### CONTACTS

Department: continuous (66+%)

University: infrequent (up to 5%)

External: moderate (16-30%)

Students: moderate (16-30%)

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## SUPERVISORY RESPONSIBILITY

None

## QUALIFICATIONS

Experience: 0+

Education/Licensing: PhD in Engineering or Computer Science

PhD in Engineering, Mathematics, or Computer Science

## REQUIRED SKILLS

1. Machine Learning/ Neural Networks/ Computer Vision

## RECOMMENDED SKILLS

1. ANSYS Fluent/COMSOL multiphase Solver
2. C, Matlab
3. Experimental design and thermal-fluidic testing experience in lab setting

## WORKING CONDITIONS

No special working conditions.

Please submit your CV and names of three references to [crk91@case.edu](mailto:crk91@case.edu).

## Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

**Contact** Chirag Kharangate

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**Contact E-mail** chirag.kharangate@case.edu