



## **Ph.D./M.S./Intern Positions in Case Western Reserve University: Hardware-Software Co-Design for Efficient Deep Learning**

### **Position Overview**

The research group of Prof. Gourav Datta, an [Assistant Professor](#) in the ECSE department at Case Western Reserve University, is currently working on energy-efficient computer vision and multimodal deep learning for a wide range of applications (e.g., smart healthcare). We focus on cutting-edge research including:

- Multi-modal KV cache compression
- Efficient Retrieval Augmented Generation
- Model deployments on embedded edge devices (FPGAs, microcontrollers)
- Emerging computing paradigms (in-sensor and neuromorphic computing)

### **Required Skills**

- Strong programming experience in PyTorch/TensorFlow for software-focused projects
- Hardware design experience (HLS/Verilog) for hardware-focused projects
- Python proficiency
- ML compiler or model deployment experience is a plus

### **Available Positions Starting Summer 2025/Fall 2025/Spring 2026**

- Ph.D. Students (with funding)
- M.S. Students
- Research Interns

*Note: While funding support is primarily for PhD students, exceptional M.S. students/interns with strong research experience may also be offered paid positions.*

## How to Apply

Please email Prof. Gourav Datta ([gourav.datta@case.edu](mailto:gourav.datta@case.edu)) with:

1. Subject line: *Applying to Work on ML HW-SW Co-design*
2. Specify desired position (Ph.D./M.S./intern)
3. Attachments:
  - Current CV
  - Academic transcripts
4. Cover letter including:
  - Motivation for joining our group
  - Relevant experience in ML/hardware (courses, projects, papers, internships)

## Lab Expectations

### What We Expect

- Self-motivation and research curiosity
- Strong problem-solving abilities in coding and mathematics
- Excellent communication and responsiveness

### What We Offer

- Comprehensive research guidance (ideation, implementation, publication)
- Full funding support (for Ph.D. students and exceptional M.S. students/interns) and computing resources
- Collaborative and supportive lab environment

For more information, please see Prof. Datta's webpage [here](#) and Prof. Datta's google scholar profile [here](#).