

# Timor Averbuch

## ACADEMIC EXPERIENCE

**SLICE Lab @ UC Berkeley** May 2023 – Present  
*Research Assistant under Prof. Fletcher*

- Utilizing a novel approach to evaluate and enhance diverse accelerators across different domains
- Modeling FHE schemes and existing accelerators to advance understanding of FHE workloads
- Driving towards a publication, comparing and proposing design improvements for FHE acceleration

**Parallel Programming Lab** May 2023 – May 2024  
*Research Assistant under Prof. Kale*

- Architecting and evaluating load balancing strategies for supercomputing clusters
- Integrating Charm++ into the Ray API backend to enhance ML workload performance
- Working towards a publication benchmarking and enhancing scientific computing applications

**Department of Computer Science** Aug 2023 – Present  
*Course Assistant*

- Holding office hours and grading projects 230+ student graduate-level Game Development course
- Overseeing three groups of 5 students each as their project manager for their degree project requirement

**Grainger College of Engineering** Aug 2023 – Dec 2023  
*Course Instructor*

- Teaching a class of 20 Computer Science freshman in a CS orientation course (ENG100)
- Mentoring individual students, offering personalized guidance and support in Computer Science studies

**Crutcher Research Group** Jan 2023 – Sep 2023  
*Research Assistant under Prof. Kemball*

- Integrated theoretical models in Julia to support interinstitutional research on star formation
- Ported legacy Fortran/C libraries for detecting Zeeman effects to modern Python interface
- Modernized 3D visualization software of astronomical telescope data

**ClassTranscribe** Jan 2023 – May 2023  
*Research Assistant under Prof. Angrave*

- Led an interdisciplinary project providing automated coaching for lecturers to improve lecture accessibility
- Collaborated with behavioral researchers to analyze visual, vocal, and textual cues from lecture recordings
- Held a plenary session at the UIUC Research Symposium in May 2023

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## EDUCATION

**University of Illinois Urbana-Champaign** Aug 2021  
*BS in Computer Science | GPA: 3.9* – May 2024  
*MS in Computer Science* – May 2026

**Selected Coursework:** Parallel Programming, Applied Parallel Programming, Machine Learning, Computer System Organization, Programming Languages, Algorithms & Models of Computation, Systems Programming

## HONORS AND AWARDS

**Full Tuition and Stipend**  
*FPSG Laboratory*

**Highest Honors**  
*University of Illinois Urbana-Champaign*

**James Scholar**  
*University of Illinois Urbana-Champaign*

## INDUSTRY EXPERIENCE

**Body Vision Medical** Aug 2020 – Dec 2022  
*Software Developer*

- Designed a virtual bronchoscopy app deployed in **70+ hospitals** and used in **3000+ medical procedures**
- Implemented X-Ray imaging simulations to train ML models for generating CT-like volumes from 2D data
- Led investigations of time-sensitive issues raised by physicians and attended medical procedures

## RESEARCH/PROFESSIONAL INTERESTS

*Parallelism, Computer Architecture, High Performance Computing, Hardware Accelerators, Fully Homomorphic Encryption (FHE), Software Acceleration, Multidisciplinary Research, Scientific Simulation, ML for Systems and Systems for ML*

## TECHNICAL SKILLS

**Programming Languages** : Python, C++, C, Ocaml, C#, Java, JavaScript, Kotlin, HTML/CSS, Assembly (MIPS)

**Frameworks and Tools** : Cuda, Charm++, Ray, QT, VTK, OpenGL, Django, Sockets, Git, Asure, AWS, GitHub,  $\LaTeX$

**Languages (proficient)** : English, Hebrew, Russian