

Stanford



Sara Achour

Assistant Professor of Computer Science and of Electrical Engineering

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Computer Science
- Assistant Professor, Electrical Engineering

PROGRAM AFFILIATIONS

- Stanford SystemX Alliance

PROFESSIONAL EDUCATION

- PhD, Massachusetts Institute of Technology , Computer Science (2021)

LINKS

- Personal Site: <https://stanford.edu/~sachour>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

I am an Assistant Professor jointly appointed to both the Computer Science and the Electrical Engineering Departments at Stanford University. My research focuses on new techniques and tools, specifically new programming languages, compilers, and runtime systems, that enable end-users to more easily develop computations that exploit the potential of emerging computing platforms that exhibit analog behaviors.

Teaching

COURSES

2025-26

- Introduction to Essential Software Systems and Tools: CS 104 (Spr)
- Software Engineering: CS 295 (Win)
- Software Techniques for Emerging Hardware Platforms: CS 349H, EE 349 (Aut)

2024-25

- Introduction to Essential Software Systems and Tools: CS 104 (Win)
- Software Engineering: CS 295 (Win)
- Software Techniques for Emerging Hardware Platforms: CS 349H, EE 292Y (Aut)

2023-24

- Introduction to Essential Software Systems and Tools: CS 104 (Win)
- Software Engineering: CS 295 (Win)
- Software Techniques for Emerging Hardware Platforms: CS 349H, EE 292Y (Aut)

2022-23

- Software Engineering: CS 295 (Win)
- Software Techniques for Emerging Hardware Platforms: CS 349H, EE 292Y (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Louis Le Coeur, Zongru Li, Leo Liu, Tejus Rao, Livia Sun

Doctoral Dissertation Advisor (AC)

Ritvik Sharma, Yu-Neng Wang

Master's Program Advisor

Jacob Householder, Samuel Jett, Josh Joseph, Eugene Oh, Stuart Sul, Michael Tsien, Avni Vats

Doctoral Dissertation Co-Advisor (AC)

Chae Young Lee

Doctoral (Program)

Kunal Sheth, Pu (Luke) Yi

Publications

PUBLICATIONS

- **Efficient Optimization with Encoded Ising Models** *2025 IEEE International Symposium on High Performance Computer Architecture (HPCA)*
Iyer, D., Achour, S.
2025: 85-98
- **Leveraging Generative AI for Rapid Design and Verification of a Vector Processor SoC** *IEEE DESIGN & TEST*
Salcedo, W., Achour, S., Mcbeth, C.
2024; 41 (6): 8-18
- **Compilation of Qubit Circuits to Optimized Qutrit Circuits**
Sharma, R., Achour, S.
ASSOC COMPUTING MACHINERY.2024
- **Design of Novel Analog Compute Paradigms with Ark**
Wang, Y., Cowan, G., Ruehmair, U., Achour, S., Assoc Computing Machinery
ASSOC COMPUTING MACHINERY.2024: 269-286
- **Hardware-Aware Static Optimization of Hyperdimensional Computations** *PROCEEDINGS OF THE ACM ON PROGRAMMING LANGUAGES-PACMPL*
Yi, P., Achour, S.
2023; 7 (OOPSLA)
- **PBA: Percentile-Based Level Allocation for Multiple-Bits-Per-Cell RRAM**
Wei, A., Levy, A., Yi, P., Radway, R. M., Raina, P., Mitra, S., Achour, S., IEEE
IEEE.2023