

Samah Hussein Youssef

Computer Science PhD Candidate

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Education

PhD in Computer Science, IC, EPFL, Expected graduation: Spring 2027.

- **Thesis:** Enabling High-Resolution Wireless 3D Sensing & Imaging
- **Supervisor:** Prof. Haitham Hassanieh

Bachelor of Science in Computer Engineering, Minor in Mathematics, Highest Honors, The American University in Cairo (AUC), June 2022, 3.957/4.0

- **Thesis:** A Multi-Knowledge Distillation Framework with Online Learning
- **Supervisors:** Prof. Cherif Salama and Dr. Hesham Eraqi

Honors & Awards

- 2022 [École Doctorale d'Informatique et de Communication Fellowship](#), IC school, EPFL, for new PhD students with an exceptional academic record.
- 2021 [Summer research fellowship](#), PARSA, EPFL
- 2017 [Khalaf Al Habtoor Scholarship](#), Covering full tuition for a bachelor's degree in computer engineering.

Work Experience

PhD Researcher: SENS lab, EPFL - Lausanne, Switzerland September 2022 - present

- Leading an end-to-end project on **multi-radar fusion for autonomous mmWave imaging**
- Architecting and deploying **radar sensing platforms** for autonomous data collection
- Building learning-based **3D reconstruction** pipelines combining mmWave radar and vision
- Driving a parallel project on **joint communication and sensing (JCAS)** on **RFSoc-based 6G prototypes**

Student Technology Assistant: Center of Learning and Teaching, AUC September 2019-2022

- Managing and supporting the digital transformation of education platforms

Research Intern: PARSA, EPFL - Lausanne, Switzerland June - September 2021

- Led a research project in the Parallel Systems Architecture (PARSA) lab
- Used Verilog, VHDL, and C languages to explore hardware security issues in FPGA-CPU MPSoCs (see publications)

Publications

- **Hussein, Samah**, et al. [3D Shape Reconstruction from Autonomous Driving Radars](#). BMVC 2025.
- Guan, J., Madani, S., Ahmed, W., **Hussein, S.**, Gupta, S., & Hassanieh, H. [Exploiting Virtual Array Diversity for Accurate Radar Detection](#). ICASSP 2023.

- Mahmoud, D. G., **Hussein, S.**, Lenders, V., & Stojilović, M. [*FPGA-to-CPU Undervolting Attacks*](#). DATE 2022.
- Mahmoud, D. G., Dervishi, D., **Hussein, S.**, Lenders, V., & Stojilović, M. [*DFaulted: CPU Software Faults from FPGA Undervolting*](#). IEEE Access, 2022.

Professional service

Primary Reviewer:

The 36th British Machine Vision Conference (BMVC'25)

Secondary Reviewer:

The IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR '26)
 ACM International Conference on Mobile Systems, Applications, and Services (MobiSys '24, '25)
 Annual International Conference On Mobile Computing and Networking (MobiCom '24, '25)
 ACM SIGCOMM '24, '25
 ACM Workshop on Hot Topics in Networks (HotNets '24, '25)

Teaching Experience

EPFL COM-405 Mobile Networking	Leading exercise sessions, creating labs
EPFL COM-304 Communications Project	Syllabus & content planning, Project supervision
EPFL CS-486 Interaction Design	Project supervision & design thinking feedback

Skills

- Programming: Proficient in C, C++, Python, Matlab, CUDA, MIPS, and RISC-V
- Machine Learning: PyTorch, PyTorch3D, Keras, TensorFlow
- Radar & Signal Processing: mmWave radar, FMCW, virtual arrays, sensor fusion
- 3D Vision & Data: Point cloud processing, Open3D, 3D reconstruction, ROS, Computer vision algorithms
- Hardware Design: Verilog, VHDL, Vivado design suite, PCB design (EagleCAD, KiCAD)
- Embedded Systems: RFSocS, MPSoCs, RTOS programming
- Data analysis: NumPy, cuPy, and pandas
- Sensors: Sensor calibration, Cross-modal fusion, and Cross-modal learning