

Soroush Shahi

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soroush-shahi.com

Computer Science graduate student at Northwestern University, with an extensive background in building deep learning pipelines on data collected from wearable sensors (e.g., visible imaging sensors) through multiple user studies. I have good problem solving and communication skills and passionate about design and evaluation of computer vision solutions for real world problems.

EDUCATION

Master of Science, Computer Science, Northwestern University, Evanston, IL February 2023
Bachelor of Science, Computer Engineering, University of Tehran, Tehran, Iran 2015 — 2020

SKILLS

Data Engineering

- Familiar with data collection pipelines and user study designs for wearable devices.
- Experienced in image data processing pipelines and building efficient data loaders using Python and PyTorch.
- Experienced in large-scale image dataset organization and annotation.

Computer Vision and Deep Learning

- Familiar with deep learning fundamentals and optimization methods.
- Experienced in implementing image and video recognition architectures designed for object detection and activity recognition.
- Familiar with classic computer vision algorithms and foundations of vision (image formation).
- Expert in end-to-end development of deep learning applications including validation and deployment in real-world.

EXPERIENCE

Graduate Research Assistant

HABits Lab – Advised by Prof. Nabil Alshurafa

Present
Chicago, IL

- Taking part in multiple research projects involving user study and experiment design.
- Leading research to automate the detection of human activities that has implications for health such as eating and smoking.

Instructor / Computing Everywhere Workshop

Northwestern University

April 2022
Evanston, IL

- Co-instructor and workshop designer to teach human activity recognition using wearable sensors.

Freelancer / iOS Developer

Home office

2016 – 2018
Tehran, Iran

- Helping multiple startups with building iOS applications that offered services such as parking payments and photo album maker.

PUBLICATION

SmartAct: Energy Efficient and Real-Time Hand-to-Mouth Gesture Detection Using Wearable RGB-T

Soroush Shahi, Mahdi Pedram, Glenn Fernandes, Nabil Alshurafa

September 2022

Impacts of Image Obfuscation on Fine-grained Activity Recognition in Egocentric Video

Soroush Shahi, Rawan Alharbi, Yang Gao, Sougata Sen, Aggelos K Katsaggelos, Josiah Hester, Nabil Alshurafa

March 2022

Detecting Screen Presence with Activity-Oriented RGB Camera in Egocentric Videos

Amit Adate, Soroush Shahi, Rawan Alharbi, Sougata Sen, Yang Gao, Aggelos K Katsaggelos, Nabil Alshurafa

March 2022

Detecting Eating, and Social Presence with All Day Wearable RGB and IR

Soroush Shahi, Sougata Sen, Yang Gao, Amit Adate, Rawan Alharbi, Aggelos Katsaggelos, Josiah Hester, Nabil Alshurafa

— Under Review —

SmokeMon: Unobtrusive Wearable for Measuring Smoking Topography

Rawan Alharbi, Soroush Shahi, Stefany Cruz, Sougata Sen, Bonnie Spring, Aggelos Katsaggelos, Josiah Hester, Nabil Alshurafa

— Under Review —

RELEVANT COURSES

Intro to Computational Photography

Summer 2021

Intro to Computer Vision

Fall 2021

Massively Parallel Programming with CUDAs

Winter 2022

Deep Learning: Foundations, Applications, and Algorithms

Winter 2022

REFERENCES*

Nabil Alshurafa — Northwestern University

Aggelos Katsaggelos — Northwestern University

Rawan Alharbi — Apple Inc.

*contact information upon request