

ZOHREH AZIZI

Los Angeles, CA. ◊ +1 (323) 428-6432 ◊ zazizi@usc.edu ◊ <https://www.linkedin.com/in/zohreh-azizi-54b77b92/>

QUALIFICATION SUMMARY

- **Research** focused on low-cost machine learning solutions for High Resolution Image Generation, Image Attribute Editing, Image Inpainting, Super Resolution, Image Deblurring, Image Denoising, Low-Light Image Enhancement.
- **Experience** with Principle Component Analysis, Independent Component Analysis, SVD Decomposition, Regression, Retinex Decomposition, 3D Point Cloud, RANSAC, Connected Component Labeling, Locally Linear Embedding, Matching Pursuit, Wiener Filter, Image Segmentation, Object Detection, Classification Algorithms, Deep Learning, GAN, VAE.
- **Languages:** Python, Matlab, C, C++, C#, Java. **Machine Learning:** Pytorch, Tensorflow, Keras, OpenCV, Catalyst.
- **Teaching** experience in 17 grad and undergrad classes with up to 70 students in various topics; Digital Image Processing, Internet & Cloud Computing, Calculus, Electronics, etc., since 2015 to present.

EXPERIENCE

Graduate Research Assistant Los Angeles, CA
Media Communications Lab (MCL) at USC *Aug. 2018 - present*

- **Low-Light Image Enhancement**, Developed a low-complexity and explainable solution for low-light enhancement, in my 1st 6 mos at MCL. Our new method is the first to balance noise removal and natural texture preservation (*IEEE VCIP 2020*).
- **High Resolution Image Generation, Human Face Attribute Editing, and Image Inpainting**, A generic low-cost solution based on a self-supervised feature learning method using the statistical properties of data units (in progress).
- **Active Noise Cancelling Hearing Aid**, Designed circuits for MEMS-based resonant microphones and micro-speakers.

Computer Vision & Perception Engineer — Intern San Jose, CA.
B GARAGE AI *May. 2021 - Aug. 2021*

- Developed a 3D scene understanding framework using 3D semantic segmentation of RGBD images captured by flying drone, capable of empty pallet detection, full pallet detection, and box counting in warehouse, during the 1st 5 weeks.
- Developed a high resolution barcode detection framework for images captured by flying drone in compromising environment, affected by severe blur and noise, with recall more than 90%. Gained experience in barcode and image deblurring.

Undergraduate Research Assistant Tehran, Iran
Sharif University of Technology *Jun. 2016 - May 2018*

- **B.Sc. Thesis: Ultra-Low Power Wearable System for Remote ECG Monitoring**, Designed smart phone application, database, and user interface for low-power remote ECG monitoring. The system collects ECG sensor data and transfers it to the user's smartphone. The ECG data is then uploaded to a cloud server for long-term monitoring. (paper under review)
- **ECG Data Compression**, Implemented a novel non-uniform sampling method for ECG data compression.

EDUCATION

Ph.D. in Electrical and Computer Engineering 2018 - Present
University of Southern California, Los Angeles, CA. GPA : 3.8/4.

B.Sc. in Electrical Engineering, minored in Economics 2013 - 2018
Sharif University of Technology, Tehran, Iran. GPA: 17.6/20.

PUBLICATIONS

- M. Rouh, M. Monajati, **Z. Azizi**, C. Jay Kuo, "Successive Subspace Learning: An Overview" *SoCal ML & NLP*, 2021.
- **Z. Azizi**, X. Lei, C. Jay Kuo, "Noise-Aware Texture-Preserving Low-Light Enhancement", *IEEE VCIP*, 2020.
- Hadizadeh, Rabbani, **Z. Azizi**, Fotowat, "Ultra-Low Power System for Remote ECG Monitoring", *Arxiv preprint*, 2019.

AWARDS

- Grace Hopper Celebration Student Scholarship to attend GHC2021.
- PhD Scholarship Admission from *University of Toronto, Georgia Institute of Technology, University of Michigan*, in 2018.
- Ranked 3rd in Class of 2018, Sharif University of Technology.
- Ranked 97th in Iran's university entrance exam in engineering, and 35th in English language, among 150'000 students, in 2013.
- Ranked 4th in Iran's national bicycle riding competition, among 5'000 participants, in 2006.