
Educations

Doctor of Philosophy: Electrical Engineering

Virginia Tech, Arlington, VA, USA

GPA: 3.88

August 2018 – December 2023

Master of Science: Electrical Engineering

Lehigh University, Bethlehem, PA, USA

GPA: 3.85

September 2016 – May 2018

Bachelor of Science: Electrical Engineering

University of Tehran, Tehran, Iran

GPA: 3.37

September 2012 – May 2016

Research Experience & Employment

Co-founder & Chief Technology Officer (CTO) at [WayWave Inc.](#)*(Jan 2024 – Present)*

- Leading the AI-based localization and positioning projects to develop and optimize high-accuracy tracking systems.
- Leading the radar and sensing R&D team for spaceborne (LEO constellation) passive detection systems.
- Collaborating with the product development and photonics teams to design high-precision timing systems.

Research Assistant in the [Network and Software Security Lab \(NSSL\) at Virginia Tech](#)*(Jan 2021 – Dec 2023)*

- Worked on localization/tracking for AR/VR applications with sub-mm level accuracy using photonic oscillators.
- Worked on indoor autonomous drone navigation with cm-level accuracy using 5G/6G technology, Reconfigurable Intelligent Surface (RIS), and high-frequency retroreflectors.
- Worked in a research team on GPS spoofing attack detection using a single 5G base station.
- Worked in a research team on drone detection using LEO satellites (Starlink) as illumination for passive radars.

Fall Intern in the [GREENFIELD LABS at Ford Motor Company](#)*(Aug 2022 - Dec 2022)*

- Analyzed outdoor & indoor positioning technology such as Satellite, 5G, Wi-Fi, UWB, Sensor-aid.
- Investigated system and antenna design for vehicle localization to bring precise positioning with potential PoC.
- Designed a collaborative positioning system based on 5G RSS fingerprinting and D2D cooperative positioning.

Summer Intern in the [Mixed Reality Team at Microsoft Corporation](#)*(May 2022 - Aug 2022)*

- Collaborated with HoloLens team on body tracking improvements.
- Collaborated with HUMATICS to design a high-accuracy tag tracking using high-frequency RF signals.
- Designed a novel scheme to solve the geometry-induced errors for high-accuracy localization systems.

Summer & Fall Intern at [Kryptowire LLC](#)*(May 2021 - Dec 2021)*

- Worked on the implementation of a 5G testbed that can be used to perform 5G NR simulations and emulations.
- Worked on a design of localization system using a single 5G base station.

Research Assistant in the [Wireless Networking and Security Research \(WiNSeR\) Lab at Virginia Tech](#)*(Aug 2018 - Dec 2020)*

- Worked on security issues pertaining to UAVs and designed a novel drone detection scheme.
- Collaborated with MID-ATLANTIC AVIATION PARTNERSHIP (MAAP) on performing experimental evaluation on drone communication using USRPs.
- Worked on indoor drone navigation in absence of GPS signal and designed a system using FHSS/FH-CDMA waveform.

Research Assistant in the [Signal Processing and Communication Laboratory at Lehigh University](#)*(Sep 2016 - May 2018)*

- Worked on a project related to cyber security for smart grids and designed a system to detect GPS spoofing attacks using PMU (Phasor Measurement Unit) data.
- Worked on an optimization project related to cyber security for Gas-Electric grid.

Teaching Assistant at [Lehigh University](#)*(Jan 2018 - May 2018)*

- Teaching Assistant for the Circuits and Systems course. Also taught the basics of MATLAB.

Research Assistant at [University of Tehran](#)*(Sep 2012 - Aug 2016)*

- Designed and simulated a **3G Base Station Antenna** in HFSS.
- Worked in a research team to design and build a **Hearing Aid**.
- Worked in a research team to design and build a modified version of **Mercury Contamination Detector**.
- Modified the design and built an **Optical Blood Pressure Equipment**.
- Worked in a research team to design and build **Brain Stimulator** for curing diseases like Parkinson.

Robotic Teacher at [Rouzbeh High School](#) and Computer Teacher at [Rouzbeh Middle School](#)*(Sep 2014 - Aug 2016)*

- Robotic Teacher: Taught electronic elements, AVR microcontrollers, programming in C, Code-Vision AVR, and Proteus.
- Computer Teacher: Taught Windows, Internet, Outlook, and Microsoft Word.

Summer intern in **Madar Pardaz Company** (Summer 2015) and **Fan Avaran Company**

(June 2014 - Aug 2014)

- Madar Pardaz: Worked on repairing Control Units for Industrial Machineries (mainly CNCs).
- Fan Avaran: Worked in the design and production of Smoke & Ultra-Violet Detectors using PIC Micro-Controller Units.

Professional Computer Skills

C/C++ Programming, Python, MATLAB, HFSS, ADS, Code-Vision AVR, Altium Designer, Visual Studio, Multisim, Lab View, HSpice, PSpice, Modelsim, Proteus

Selected Publications

- A. Famili, A. Stavrou, H. Wang and J. -M. Park, "OFDRA: Optimal Femtocell Deployment for Accurate Indoor Positioning of RIS-Mounted AVs," **IEEE Journal on Selected Areas in Communications (JSAC)**, 2023.
- A. Famili, A. Stavrou, H. Wang and J. -M. Park, "PILOT: High-Precision Indoor Localization for Autonomous Drones," **IEEE Transactions on Vehicular Technology**, vol. 72, no. 5, pp. 6445-6459, May 2023.
- A. Famili, G. Himona, Y. Kominis, A. Stavrou and V. Kovanis, "Leveraging Isochrons of Nonlinear Oscillators for High-Precision Localization," **IEEE Internet of Things Journal**, 2024.
- A. Famili, S. Sun, T. Atalay and A. Stavrou, "Harnessing Meta-Reinforcement Learning for Enhanced Tracking in Geofencing Systems," **IEEE Open Journal of the Communications Society**, vol. 6, pp. 944-960, 2025.
- Tolga O. Atalay, Dragoslav Stojadinovic, Alireza Famili, Angelos Stavrou, Haining Wang, "5G-MAP: Demystifying the Performance Implications of Cloud-Based 5G Core Deployments," **ACM Annual International Conference on Mobile Computing and Networking (MobiCom)**, 2025.

For the remaining publications, please visit my [Google Scholar](#).

Activities and Honors

- US Patent titled "High-accuracy device positioning" (Patent No. 18/188,960), 2024.
- Best paper award in IEEE MetaCom, 2023.
- Lehigh University Graduate Ambassador award for student mentorship, 2017.
- IEEE Certificate for AVR and HSpice courses, 2013.
- Attained a high rank among candidates in the Iranian national university entrance exam, 2012.

Service

2025

- **Springer Nature GPS Solutions**: Reviewer (1 paper)
- **USENIX Security**: External Reviewer (1 paper)

2024

- **iMETA**: Reviewer and **Program Committee (PC)** (3 papers)
- **IEEE Transactions on Signal Processing**: Reviewer (1 paper)
- **IEEE Communications Magazine**: Reviewer (1 paper)
- **ACM TOPS**: Reviewer (1 paper)
- **International Journal of Information Security**: Reviewer (1 paper)
- **MDPI Drone**: External Reviewer (1 paper)
- **NDSS**: External Reviewer (2 papers)

2023

- **iMETA**: Reviewer and **Program Committee (PC)** (2 papers)
- **IEEE Sensors Journal**: Reviewer (1 paper)
- **IEEE TTE**: Reviewer (1 paper)
- **IEEE TVT**: Reviewer (1 paper)
- **IWQOS**: External Reviewer (1 paper)

2022

- **SAE**: Reviewer (1 paper)
- **IEEE Sensors Journal**: Reviewer (1 paper)
- **IEEE VTM**: Reviewer (1 paper)
- **IJSN**: External Reviewer (1 paper)
- **ACM CODASPY**: External Reviewer (2 papers)

2021

- **SAE**: Reviewer (3 papers)
- **IEEE CAMAD**: External Reviewer (1 paper)
- **SECRYPT**: External Reviewer (2 papers)