

EDUCATION

MS in Computer Science **Vanderbilt University** **2017 – Aug 2019**

- GPA: 3.9 Web-based System Architecture; Cloud Computing; Advanced Algorithms; Machine Learning; Deep Learning; Reinforcement Learning; Distributed Systems; Concurrent Java Programming; Modeling & Simulation;

BS in IT Engineering **Tehran Azad University** **2011 – 2015**

- GPA: 3.8 Coursework: Data Structures; Databases; Statistics & Probability; Artificial Intelligence; Software Design; Computer Networks; Operating Systems; Programming Languages; Operational Research;

LANGUAGES AND TECHNOLOGIES

- Python, JavaScript, C++, Java, Bash, Ruby
- Git, Agile Methodologies, CI (Travis, Jenkins)
- Vue.js, Node.js, Flux, RoR, React
- Linux, Ansible, Docker, Vagrant, AWS, OpenStack
- MongoDB, MySQL, S3, Redis
- PWA, Cordova, Android

EXPERIENCE

Software Engineer Intern **Real-Time Innovations (RTI)** **May 2019 – Present**

- Designed and implemented APIs to expose information about the type system for customers.
- Evaluate, research, and develop a pluggable lossless compression solution for real-time, peer to peer communication of user data. Targeting use-cases for autonomous vehicles: sensor sweeps and camera feeds.

Research Assistant **Institute for Software Integrated Systems** **Jan 2017 – Present**

Researched and developed in the intersection computer networks, distributed systems, cybersecurity, and robotics with a flavor of CS education. My main projects: NetsBlox and RoboScape.

- Increased messaging throughput by 24x under load.
- Guaranteed type safety for user-facing services.
- Created a portable batch provisioning tool to facilitate initial robot setup & connection to a new access point.
- Improved early bug discovery: CI, Chaos Monkey
- Added dynamic help generation for 120+ APIs

Teaching Assistant **Vanderbilt University** **Jan 2017 – April 2017**

- Program Design & Data Structures. C++.
- Code reviews, best practices & test-driven development.
- Improved grading efficiency and accuracy via batch processing scripts with checks for memory leaks.

IT Intern **TebSoft** **Summer 2015**

- Sped up updates & page loads Squid-Cache and Nginx.
- Optimized data backup process in HIS software.

IT Intern **Tosan Banking and Payment Solutions Provider** **Summer 2014**

- Actively maintained branch networks.
- Led monthly orientations for new clients.

SELECTED PROJECTS [↗](#)

- **Roboscape** (2018) Developed an educational cybersecurity playground using robotics and NetsBlox *C, JS* [↗](#)
- **Fog Alert** (2018) A 3-component fog based, intrusion detection system with simple face recognition. *Python, C*
- **Next Block Prediction** (2017) Suggest next blocks in block-based languages: RNN, Ngrams, Word2Vec. *Python* [↗](#)
- **Sketch Adventures** (2018, Global Game Jam) Incorporated a doodle classifier to create a game. *Python, Rust* [↗](#)
- **Distributed PubSub Broker** (2017) Led a team to design and implement three different architectures of a resilient PubSub broker with QoS using ZeroMQ, CHORD, and Zookeeper from scratch. *Python* [↗](#)
- **NetsBlox Player** (2018) A mobile app to run networked, user-created, programs on IOS & Android. *JS, Cordova* [↗](#)
- **Generalizable QLearning Framework** (2018) A DQN framework for solving board games. *Python, JS* [↗](#)
- **Smart Home Automations w/ RPI & ESP** (2016) a collection of smart home DIY projects *Python, Bash*
- **UniDB** (2016) Crowdsourced US University Database: www.unidb.us - *Ruby, RoR*

ADDITIONAL TRAININGS

- UI/UX, SEO, JAM Stack
- Soft Skills, E-commerce, IT Project Management
- LPI I & II (Linux), CentOS System Administration
- CCNA, CCNP Routing & Switching

SELECTED PUBLICATIONS [↗](#)

- “Educational Robotics with a Twist”, H.Zare, M.Maróti, A.Ledeczi, *2018 - Blocks+ IEEE*
- “NetsBlox and Wireless Robots Make Cybersecurity Fun”, A.Ledeczi, H.Zare, G.Stein, *2019 - ACM SIGCSE*
- “A Visual Programming Environment for Introducing Distributed Computing to Secondary Education”, *Elsevier*
- “You can teach computer networking in high school”, B.Broll, H.Zare, D.Do, M.Misra, A.Ledeczi, *2017 - IEEE*