

Arman Tavakoli

arman.tavakoli@gmail.com, (517) 402-9310, linkedin.com/in/artavak/

Education

- **Ph.D.** in Applied Mathematics, Michigan State University.

Aug 2016 - Dec 2021

Work Experience

Software Development Engineer (SDE), S3 @ Amazon Web Services (AWS)

Aug 2022 - Nov 2023

- Led the transition of the first internal S3 Index microservice to TLS secure communication, creating a blueprint adopted by over 20 subsequent services.
- Led code reviews, spearheaded product designs, increased operational safety via unit testing, handled on-call escalation and contributed to the launch of new products for backend distribution of traffic in S3 Index.
- Identified emergent traffic patterns in customer usage over the past 2 years using SQL data analysis, leading to the development of a new traffic distribution algorithm.
- Identified and resolved chronic issues causing operator pain in analyzing complex time events in a distributed system of an S3 Index microservice, resulting in a 10% weekly reduction in tickets.
- Built consensus with 2 sister S3 Index teams to automate capacity planning through time series machine learning models, with a focus on data pipelines, extraction, transformation, and visualization of data.
- Mentored and guided 2 junior engineers in a team of 6.

Graduate Research Assistant, Michigan State University

Sep 2016 - Dec 2021

- Authored 4 scientific research publications in collaboration with engineers and mathematicians, focused on efficient dimension reduction.
- Scientific coding for size reduction for large datasets in Python using Scikit-learn, NumPy and Pandas libraries.
- Instructed over 9 undergraduate courses, teaching a total of 300 college students.
- Mentored 3 doctoral students for adapting to university life and integrating into the university community for international students.
- Spearheaded a weekly departmental seminar for one year, averaging 6 attendees per session.

Software Engineer, MDA

Dec 2014 - Jul 2015

- Created more than 300 test cases for establishing safety boundaries for airplane routes.
- Verified the implementation of over 1,000 legal requirements in the airplane route design software.
- Conducted live product demonstrations for customer representatives, building customer trust and achieving product certification.

Graduate Research Assistant, Waterloo University

Sep 2012 - Jun 2014

- Authored a comprehensive thesis on optimizing sensor placement within control systems.
- Set up and performed the first demonstrations for the applied mathematics lab.
- Scientific coding in Matlab for stabilizing control systems.
- Instructed 4 university courses in mathematics, educating and mentoring more than 100 students.

Intern in Software Engineering, IBM

Sep 2010 - Apr 2011

- Automated and accelerated a daily test suite of 1,000 tests to maintain product health using Perl, Python, and Bash.

Programming Skills

- **Cloud Technologies:** Amazon Web Services Family: S3, SageMaker, RedShift, CDK.
- **Tech Stack:** Kotlin, Java, Ruby, Python, SQL, Unix.