

Mohammad M. Ahmadpanah

📧 smahmadpanah.github.io

Research Interests

✉ mohammad.ahmadpanah@chalmers.se

- Language-Based Security
- Information-Flow Security
- Programming Languages

Education

- **Chalmers University of Technology** Supervisors: [Andrei Sabelfeld](#) and [Daniel Hedin](#)
PhD Candidate, Information Security 9/2019 - 6/2024
- **Amirkabir University of Technology (Tehran Polytechnic)** Supervisor: [Mehran S. Fallah](#)
PhD Candidate, Software Engineering, GPA: 17.70/20 (2nd place) 9/2017 - 9/2019
MSc, Information Security, GPA: 17.89/20 (1st place) 9/2015 - 9/2017
BSc, Software Engineering, GPA: 17.69/20 (Top 10%) 9/2011 - 9/2015

Publications

- **LazyTAP: On-Demand Data Minimization for Trigger-Action Applications** [S&P 2023](#)
Mohammad M. Ahmadpanah, Daniel Hedin, and Andrei Sabelfeld
- **SandTrap: Securing JavaScript-driven Trigger-Action Platforms** [USENIX Security 2021](#)
Mohammad M. Ahmadpanah, Daniel Hedin, Musard Balliu, Eric Olsson, and Andrei Sabelfeld
- **Nontransitive Policies Transpiled** [EuroS&P 2021](#)
Mohammad M. Ahmadpanah, Aslan Askarov, and Andrei Sabelfeld
- **Securing Node-RED Applications** [Protocols, Strands, and Logic 2021](#)
Mohammad M. Ahmadpanah, Musard Balliu, Daniel Hedin, Eric Olsson, and Andrei Sabelfeld
- **Securing Software in the Presence of Third-Party Modules** [Licentiate Thesis 2021](#)
Supervisors: Andrei Sabelfeld and Daniel Hedin, Opponent: Deian Stefan, Examiner: David Sands
- **Improving Multi-Execution-Based Mechanisms for Enforcing Information Flow Policies** [MSc Thesis 2017](#)
Supervisor: Mehran S. Fallah, Opponents: Mehdi Shajari and Ramtin Khosravi
- **Dynamic Enforcement of Security Hyperproperties: A Survey** [Technical Report 2016](#)
- **A Tool for Rewriting-Based Enforcement of Noninterference in While Programs** [BSc Thesis 2015](#)
Supervisor: Mehran S. Fallah, Opponent: MohammadReza Razzazi

Honors and Activities

- *External Reviewer* of the conference flagships **S&P'24, USENIX'24, WWW'24, USENIX'23, CCS'23, CSF'22, EuroS&P'22, S&P'21, CSF'20, EuroS&P'20, and CCS'19.**
- *Speaker* at **CSF'23, KTH Security'23, Chalmers Security'21, FOSAD'22, SWITS'22, CSF'20.**
- *Poster Presenter* at **CCS'23, SPLITS Security Workshop'23, Google Compiler and PL Summit'19.**
- Rewarded **Bounties** for *Code Injection* and *JS Sandbox* vulnerabilities on IFTTT, 2020 and 2023.
- Recipient of *Adlerbert Foreign Student Hospitality Foundation Scholarship*, Sweden, 2021 - 2023.
- Member of *Chalmers-KTH-Aarhus Educational CTF Organization* team, 2021 - 2023.
- Awarded *Outstanding Graduate Student Scholarship*, Amirkabir, 2016.
- Ranked **43rd** among ~30000 applicants of MSc nationwide exam in Information Technology, Iran, 2015.
- Member of the **National Scientific Olympiad** team in Computer Science and Eng., Amirkabir, 2014.

Teaching Experiences

- **Securing Electronic Exam Environments** (MSc thesis supervision)
- **Language-Based Security**
- **Programming Language Technology**
- **Principles of Compiler Design**
- Discrete Mathematics (Best TA)
- Operating Systems Lab (Best Lab Instructor)
- **Design of Programming Languages**
- **Finite Automata and Formal Languages**
- Data Structures and Algorithms (Best TA)
- Advanced Programming (Top 3% Lecturer)
- Software Engineering

Work Experiences

- **Web Security Consultant/Technical Referee**, [Kolah Sefid Bug Bounty Platform](#) 9/2018 - 7/2019
- **Security Architecture Consultant/Protection Profiles Designer**, [KNSecure](#) 6/2018 - 7/2019
- **Web Security Tester/Developer/Instructor**, [Amirkabir CERT Lab](#) 5-8/2015 and 9/2018 - 7/2019

Technical Skills

- **Programming Languages:** JavaScript/Node.js, Java, C, Haskell, Racket, OCaml, Shell script.
- **Security:** Threat Modeling, CodeQL, Kali CEH Tools, Invicti, Burp Suite, Nessus, Acunetix, SELinux.
- **Compiler Design and Formal Verification:** BNFC, Flex, Bison, Coq, Promela, Spin, Maude-NPA.