Mohammad M. Ahmadpanah

smahmadpanah.github.io

mohammad.ahmadpanah@chalmers.se

Research Interests

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

Education

o **Chalmers University of Technology**   Supervisors: Andrei Sabelfeld and Daniel Hedin
  PhD Candidate, Information Security   9/2019 - 6/2024
o **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

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

Honors and Activities

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

Teaching Experiences

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

Work Experiences

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

Technical Skills

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