Seyed Mohammad Mehdi Ahmadpanah

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RESEARCH INTERESTS

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

EDUCATION

- **Amirkabir University of Technology** (Tehran Polytechnic), Tehran, Iran

  - **Ph.D. Candidate**, Computer Engineering, Software — *Sep. 2017 - now*
    GPA: **17.70** / 20 (**4.00**/4.00) – Supervisor: Mehran S. Fallah

  - **M.Sc.**, Information Technology, Information Security — *Sep. 2015 - Sep. 2017*
    GPA: **17.89** / 20 – Supervisor: Mehran S. Fallah

  - **B.Sc.**, Computer Engineering, Software — *Sep. 2011 - Sep. 2015*
    GPA: **17.69** / 20 – Supervisor: Mehran S. Fallah

RESEARCH EXPERIENCES

- **Research Assistant** at *Formal Security Lab.*   *March 2015 - now*
    - **Enforcing Information Flow Policies using Language-Based Techniques** - Ph.D. Studies   *September 2017 - now*
    - **Improving Multi-Execution-Based Mechanisms for Enforcing Information Flow Policies** - M.Sc. Thesis   *November 2015 - September 2017*
    - **A Tool for Rewriting-Based Enforcement of Noninterference in While Programs** - B.Sc. Project   *March 2015 - September 2015*

- **Static Analysis of Unsafe Use of Variables in Java** - Research Method and Technical Report Writings course [Written and Oral Presentation]   *Spring 2014*

TEACHING EXPERIENCES

- **Teaching Assistant**, **Discrete Mathematics**
  Under the supervision of Mehran S. Fallah   *Spring 2014, 2016, 2017, 2019*

- **Teaching Assistant**, **Discrete Mathematics**
  Under the supervision of Mostafa H. Chehreghani   *Spring 2019*

- **Teaching Assistant**, **Design of Programming Languages**
  Under the supervision of Mehran S. Fallah   *Fall 2014, 2015, 2016, 2017, 2018*

- **Lecturer**, **Advanced Programming**, CEIT, AUT   *Spring 2018*

- **Teaching Assistant**, **Data Structures**
  Under the supervision of Mehdi Dehghan   *Fall 2013, 2014, 2016, 2017*

- **Teaching Assistant**, **Principles of Compiler Design**
  Under the supervision of M. Reza Razzazi   *Spring 2016, Fall 2016, Spring 2017*

- **Instructor**, **Operating Systems Lab.**
  Under the supervision of Bahador Bakhshi   *Spring 2016, Fall 2016*

- **Instructor**, **Computer Lab.**
  Under the supervision of Ahmad NickAbadi   *Fall 2016 (two groups)*

- **Teaching Assistant**, **Advanced Programming**
  Under the supervision of S. Majid Noorhosseini   *Spring 2013, 2014, 2015*

- **Teaching Assistant**, **Information Storage and Retrieval**
  Under the supervision of Ahmad NickAbadi   *Spring 2015*

- **Teaching Assistant**, **Software Engineering I**
  Under the supervision of Bahman Pourvatan   *Fall 2014*

PUBLICATIONS AND TECHNICAL REPORTS

- **"Buffered Secure Multi-Execution: A Fully Transparent Enforcement Mechanism for Timing-Sensitive Noninterference"** with Mehran S. Fallah, - in progress.

- **"An Introduction to Reo"** - seminar report for Verification of Reactive Systems course [In Persian], Sharif University of Technology, Tehran, Iran, 2018.

- **"Improving Multi-Execution-Based Mechanisms for Enforcing Information Flow Policies"** - M.Sc. Thesis (+ Oral defense) [In Persian], AUT, 2017.

- **"Dynamic Enforcement of Security Hyperproperties"** - survey report for Seminar course (+ Oral presentation) [In Persian], AUT, 2016.

- **"Formal Analysis of Kerberos v5 using MaudePSL"** with Ehsan Edalat - project report for Security Protocols course [In Persian], AUT, 2016.

- **"A Tool for Rewriting-Based Enforcement of Noninterference in While Programs"** - B.Sc. Project Report (+ Oral defense) [In Persian], AUT, 2015.

TALKS

- **"Abstract Interpretation for Static Analysis of Information Flow Security"** - Oral presentation for Ph.D. Qualification Exam [In Persian], AUT, 2019.

- **"Relational Abstract Interpretation for Verification of Information Flow Policies"** - Oral presentation for seminar of Program Analysis course [In Persian, Slides In English], AUT, 2018.

- **"Reo: A Channel-Based Model for Component Composition"** - Oral presentation for seminar of Verification of Reactive Systems course [In Persian], Sharif University of Technology, 2018.

- **"Dependent Types, Twelf and Its Application in Proof"** - Oral presentation for seminar of Advanced Programming Languages course [In Persian, Slides In English], AUT, 2017.

- **"Monitoring-Oriented Programming"** - Grad Talk and Oral presentation for seminar of Software Systems Security course [In Persian, Slides In English], CEIT, AUT, 2017.

- **"Probabilistic Noninterference"** - Oral presentation for seminar of Formal Models and Information Security course [In Persian, Slides In English], AUT, 2016.

WORK EXPERIENCES

- **Kolah Sefid** (Bug Bounty Platform)   *September 2018 - now*
  Technical Referee (Web Application Security) and Consultant

- **Kahkeshan Moshaver**   *June 2018 - now*
  Security Consultant and Provider of Security Protection Profiles

- **AUT CERT Lab.**   *Summer 2015 and September 2018 - now*
  Web Application Security Tester, Software Developer and Instructor

HONORS AND AWARDS

- Recognized as a **Scientific Talent** by the National Elites Foundation of Iran, 2018.
- Ranked **Top 3%** among Lecturers of all departments of the university (830 lecturers), according to the student evaluation for teaching *Advanced Programming*, AUT, Spring 2018.
- Honored as the **Best Teaching Assistant** (Spring 2017, Fall 2017) and the **Best Lab. Instructor** (Fall 2016) according to the student evaluation, CEIT, AUT.
- Offered for **Direct Admission** to graduate school (**Ph.D.**) in Computer Engineering - Software, from two top universities of Iran, **University of Tehran** and **Amirkabir University of Technology**, 2017.
- Awarded **Outstanding Graduate Student Scholarship** and Achieved **1st** place among 2015-entries in Information Security major, AUT, 2016 and 2017.
- Achieved **43rd** place among all applicants of the University Entrance Nationwide Exam for M.Sc. in Information Technology (∼30000 applicants), Iran, 2015.
- Qualified to **Direct Admission** to graduate school (**M.Sc.**) of Computer Engineering and IT Department, AUT, 2014.
- Selected as a member of the university team for the **National Scientific Olympiad** in Computer Engineering (**3rd** place among undergraduate students), AUT, 2014.
- Achieved top **2%** and **1.5%** place among all applicants of the Nationwide University Entrance Exam for B.Sc. in Math. and Engineering (∼260000 applicants), and Foreign Languages - English (∼108000 applicants), respectively, Iran, 2011.
- Skipped **Three** grades of Elementary School as an Exceptional Talent, Tehran, Iran, 2002.

TECHNICAL SKILLS

- **Programming Languages:** Java, C/C++, Racket, OCaml, Shell Scripting.
- **Database Systems:** MySQL, MongoDB.
- **Operating Systems:** Windows, Linux (Ubuntu, Fedora and Kali).
- **Web Development:** HTML, CSS, JavaScript, jQuery, PHP, Yii, J2EE.
- **Miscellaneous:** Flex and Bison, Promela and Spin, MaudePSL, CEH Tools, MS Threat Modeling Tool, PREfast, SELinux, UML, GNS3.

LANGUAGES

- **Persian** (Farsi): *Mother tongue (Native)*
- **English**: *Professional working proficiency* (MSRT*: 83/100)

REFERENCES

- **Mehran S. Fallah, Associate Professor**
  Supervisor and Deputy for Undergraduate and Postgraduate Studies, CEIT, AUT
  Email: msfallah@aut.ac.ir
- **MohammadReza Razzazi, Professor**
  Head of Software Group, CEIT, AUT
  Email: razzazi@aut.ac.ir
- **Seyed Majid Noorhosseini, Assistant Professor**
  Member of Software Group, CEIT, AUT
  Email: majidnh@aut.ac.ir

Last Update: May 2019

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* English Exam conducted by the Ministry of Science, Research and Technology of Iran