SeyedMohammadMehdi Ahmadpanah

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RESEARCH INTERESTS

- Language-based Security
- Formal Methods of Information Security
- Programming Languages
- Compiler Design

EDUCATION

- **Amirkabir University of Technology** (Tehran Polytechnic), Tehran, Iran
  Ph.D. Candidate, Computer Engineering, Software
  September 2017 - now
  GPA: **17.70** / 20   (**4.00**/4.00)

- **Amirkabir University of Technology** (Tehran Polytechnic), Tehran, Iran
  M.Sc., Information Technology, Information Security
  September 2015 - September 2017
  GPA: **17.89** / 20

- **Amirkabir University of Technology** (Tehran Polytechnic), Tehran, Iran
  B.Sc., Computer Engineering, Software
  September 2011 - September 2015
  GPA: **17.69** / 20

- **Refah** High School, Semnan, Iran
  Diploma in Mathematics and Physics
  September 2007 - June 2011
  GPA: High School **19.26** / 20 , Pre-University **19.52** / 20

HONORS AND AWARDS

- Recognized as a **Scientific Talent** by the National Elite Foundation of Iran, 2018.

- Ranked **Top 3%** among Lecturers of all departments of the university, according to students evaluation for teaching *Advanced Programming*, AUT, Spring 2018.

- The **Youngest** Lecturer (at age 22) and Lab. Instructor (at age 20), CEIT, AUT.

- Honored as the **Best Teaching Assistant** (Spring 2017, Fall 2017) and the **Best Lab. Instructor** (Fall 2016) according to students evaluation, CEIT, AUT.

- Offered for **Direct Admission** to graduate school (**Ph.D.**) in Computer Engineering - Software, **University of Tehran** and **Amirkabir University of Technology**, 2017.

- Awarded as the **Outstanding Student** and achieved **1st** place among 2015-beginner graduate students in Information Security major, AUT, 2016 and 2017.

- Rewarded **Outstanding Graduate Student Fellowship**, AUT, 2016.

- Achieved **43rd** place among all applicants for the M.Sc. University Entrance Nationwide Exam in Information Technology, Iran, 2015.

- Awarded as an Active Member of **Student Scientific Association of Computer Engineering and IT Department** (Awarded as The best Student Scientific Association of the University), AUT, 2015.

- Qualified to **Direct Admission** to graduate school (**M.Sc.**) of Computer Engineering and IT Department, AUT, 2014.

- Selected as a member of **National Scientific Olympiad** in Computer Engineering team of AUT (3rd place among undergraduate students), 2014.

- Achieved top **2%** place among all applicants for the University Entrance Nationwide Exam (Approximately 260000 applicants) in Math. and Eng., Iran, 2011.

- Skipped **Three** grades of elementary school en masse as an exceptional talent, Tehran, Iran, 2002.

RESEARCH EXPERIENCES

- **Research Assistant**, *January 2015 - present*
Formal Security Lab.
  Improving Multi-Execution-based Mechanisms for Enforcing Information Flow Policies, - M.Sc. Project *November 2015 - present*

  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, *Spring 2014*

TEACHING EXPERIENCES

- **Teaching Assistant**, **Discrete Mathematics**,
Under supervision of Prof. Chehreghani *Spring 2019*

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

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

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

- **Teaching Assistant**, **Discrete Mathematics**,
Under supervision of Prof. Fallah *Spring 2014, Spring 2016, Spring 2017*

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

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

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

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

- **Teaching Assistant**, **Computer Networks II**,
Under supervision of Prof. Sabaei *Spring 2015*

- **Teaching Assistant**, **Information Storage and Retrieval**,
Under supervision of Prof. NickAbadi *Spring 2015*

- **Teaching Assistant**, **Software Engineering I**,
  Under supervision of Prof. Pourvatan   *Fall 2014*

- **Teaching Assistant** , **Computer Architecture**,
  Under supervision of Prof. Zarandi   *Spring 2014*

PUBLICATIONS AND TECHNICAL REPORTS

- **S.M.M. Ahmadpanah** *"Dynamic Enforcement of Security Hyperproperties"* - report for Seminar course (In Persian), AUT, 2016.

- **S.M.M. Ahmadpanah**, E. Edalat *"Formal Analysis of Kerberos v5"* - project report for Security Protocols course (In Persian), AUT, 2016.

- **S.M.M. Ahmadpanah**, *"A Tool for Rewriting-Based Enforcement of Noninterference in While Programs"* - B.Sc. Thesis (In Persian), AUT, 2015.

TALKS

- **S.M.M. Ahmadpanah** *"Abstract Interpretation for Static Analysis of Information Flow Security"* - Oral presentation for Qualification Exam (In Persian), AUT, 2019.

- **S.M.M. Ahmadpanah** *"Relational Abstract Interpretation for Verification of Information Flow Policies"* - Oral presentation for seminar of Program Analysis Languages course (In Persian), AUT, 2018.

- **S.M.M. Ahmadpanah** *"Reo: A Channel-Based Model for Component Composition"* - Oral presentation for seminar of Verification of Reactive Systems course (In Persian), Sharif University of Technology, 2017.

- **S.M.M. Ahmadpanah** *"Dependent Types, Twelf and Its Application in Proof"* - Oral presentation for seminar of Advanced Programming Languages course (In Persian), AUT, 2017.

- **S.M.M. Ahmadpanah** *"Monitoring-Oriented Programming"* - GradTalk (In Persian), Computer Engineering and IT Department, AUT, 2017.

- **S.M.M. Ahmadpanah** *"Dynamic Enforcement of Security Hyperproperties"* - Oral presentation for Seminar course (In Persian), AUT, 2016.

- **S.M.M. Ahmadpanah** *"Probabilistic Noninterference"* - Oral presentation for seminar of Formal Models and Information Security course (In Persian), AUT, 2016.

- **S.M.M. Ahmadpanah**, *"Static Analysis of Unsafe Use of Variables in Java"* - Oral presentation for Research Method and Technical Report Writings course (In Persian), AUT, 2014.

WORK EXPERIENCES

- **Kolah Sefid**,   *September 2018 - now*
  Technical Referee and Consultant

- **Kahkeshan Moshaver**,   *June 2018 - now*
  Security Consultant

- **Amirkabir University of Tech. CERT Lab. (A.P.A.)**, *Summer 2015 and September 2018 - now*
  Software Security Tester, Developer and Instructor

- **Rayan Pardazan Nikro Emertat (RAPNA)**,   *Summer 2014*
  Software Engineer and Web Developer (PHP server-side for an Android application) - Summer Internship.

- **Sharif University of Technology Research Center**,
  May 2012 - September 2015
  Question Designer and Auditor of several Employment Exams

TOP ACADEMIC COURSE PROJECTS

- **Software Systems Security**,
  Threat Modeling and Bug Filing of a File Integrity Checker

- **Network Security**,
  Security Mechanisms and Defense Techniques in different layers of Computer Networks

- **Database Security**,
  Security in Oracle including User Management, Roles, VPD and Auditing

- **Security Protocols**,
  Formal Analysis of Kerberos v5 Protocol with MaudePSL

- **Secure Computer Systems**,
  BufferOverFlow in SELinux and MSSQL Security Survey

- **Cryptology**,
  TwoFish Cryptosystem: 256-bit Expansion and, Linear and Differential Analysis

- **Compiler Design**,
  Implementing a front-end compiler for a programming language using flex and bison. The project has been done using Java and C in two versions.

- **Programming Languages**,
  Developing an interpreter using ML language. The project has been done using lex, yacc, and other abilities of OCaml.

TECHNICAL SKILLS

- **Programming Languages:**
  Java, C/C++, Mips, ML, OCaml, Lisp, Racket, Shell Scripting.

- **Database Systems:**
  MySQL, MongoDB.

- **Operating System:**
  Windows, Linux (Ubuntu, Fedora and Kali).

- **Web Development:**
  HTML (XHTML and HTML 5), CSS, JavaScript, jQuery, PHP, XML, XSLT, J2EE.

- **Other:**
  MS Threat Modeling Tool, PREfast, GNS3, MaudePSL, SELinux, UML, Flex and Bison, Boson NetSim, Cisco Packet Tracer, MS Project, VHDL, Verilog, Orcad Pspice, Proteus.

LANGUAGES

- **Persian** (Farsi) : *Mother tongue (Native)*

- **English** : *Professional working proficiency*

REFERENCES

- **Mehran S. Fallah, Associate Professor**
  Computer Engineering and IT Department, Amirkabir University of Technology
  Email: `msfallah@aut.ac.ir`

- **MohammadReza Razzazi, Professor**
  Computer Engineering and IT Department, Amirkabir University of Technology
  Email: `razzazi@aut.ac.ir`

- **Mehdi Dehghan TakhtFooladi, Professor**
  Computer Engineering and IT Department, Amirkabir University of Technology
  Email: dehghan@aut.ac.ir

- **Seyed Majid Noorhosseini, Assistant Professor**
  Computer Engineering and IT Department, Amirkabir University of Technology
  Email: majidnh@aut.ac.ir

- **Masoud Sabaei, Associate Professor**
  Computer Engineering and IT Department, Amirkabir University of Technology
  Email: sabaei@aut.ac.ir

- **Ahmad NickAbadi, Assistant Professor**
  Computer Engineering and IT Department, Amirkabir University of Technology
  Email: nickabadi@aut.ac.ir

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