

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. Student, 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

- 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.
- **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

- **Lecturer, Advanced Programming,** CEIT, AUT *Spring 2018*
- **Teaching Assistant, Design of Programming Languages,**
Under supervision of Prof. Fallah *Fall 2014, Fall 2015, Fall 2016, Fall 2017*
- **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** “*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

- **Kahkeshan Moshaver**, *June 2018 - now*
Document Producer of Security Protection Profiles
- **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 - present*
Question Designer and Checker 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**
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