

Amir Hossein Parvardi

Curriculum Vitae

Research Interests

- Algebraic Number Theory
- Multiplicative Number Theory
- Diophantine Equations
- Abstract Algebra

Education

- 2017–2019 **M.Sc. in Mathematics**, *The University of British Columbia*, Vancouver, Canada.
(Expected)
- 2012–2017 **B.Sc. in Electrical Engineering (Control)**, *University of Tehran*, Tehran, Iran.
(Expected) Total GPA: 3.3/4 or 15.63/20 (up to now) via 127 credits
Last three semesters GPA: 3.63/4 or 16.5/20 via 43 credits

Honors and Awards

- Fall 2017 Accepted in the Mathematics M.Sc. program at The University of British Columbia with full financial support (RA and TA).
- Summer 2012 Ranked 197 among 103,256 (top 0.2%) in Iranian University Entrance Exam (Konkour) in math and engineering sciences
- Summer 2012 Ranked 164 among 35,938 (top 0.4%) in Iranian University Entrance Exam (Konkour) in foreign languages
- 2010 – Global moderator of [Art of Problem Solving](#) (AoPS) forums (2010 – 2014) and a chief moderator of the mathematical olympiad community (2010 – now)
- Present
- Winter 2009 Accepted in first round of Iranian National Mathematics Olympiad
- Spring 2007 Accepted in NODET high school for exceptional talents
- Spring 2005 Accepted in NODET middle school for exceptional talents

Test Scores

- TOEFL iBT Overall: 113 – Reading: 30, Listening: 30, Speaking: 24, Writing: 29
- GRE General Verbal Reasoning: 149, Quantitative Reasoning: 163, Analytical Writing: 4

Publications

Books

- [1] A. H. Parvardi and M. Billal. *Topics in Number Theory, An Olympiad Oriented Approach*. 2016. Under review by Springer.

Articles

- [2] N. Ghobadipasha, P. Nasehpour, and A. H. Parvardi. Superparticular Decompositions and Musical Graphs. 2016. In preparation.
- [3] P. Nasehpour and A. H. Parvardi. Finitely Additive, Modular and Probability Functions on Pre-semirings. March 2016. [ArXiv](#) e-prints.
- [4] A. H. Parvardi. Lifting The Exponent Lemma. April 2011. Published at [Art of Problem Solving](#), selected as a featured article of the website.

Problem Sets

- [5] A. H. Parvardi. 100 Combinatorics Problems (With Solutions). June 2011. Published at [Art of Problem Solving](#).
- [6] A. H. Parvardi. 100 Functional Equations Problems (With Solutions). June 2011. Published at [Art of Problem Solving](#).
- [7] A. H. Parvardi. 100 Inequalities Problems Proposed by Vasc and Arqady. January 2011. Published at [Art of Problem Solving](#).
- [8] A. H. Parvardi. 100 Number Theory Problems (With Solutions). June 2011. Published at [Art of Problem Solving](#).
- [9] A. H. Parvardi. 100 Polynomial Problems (With Solutions). March 2011. Published at [Art of Problem Solving](#).
- [10] A. H. Parvardi. 150 Geometry Problems (With Solutions). January 2011. Published at [Art of Problem Solving](#).
- [11] A. H. Parvardi and B. Engwall. 1220 Number Theory Problems (The J29 Project). August 2012. Published at [Art of Problem Solving](#).

Teaching Experience

- Summer 2016 Invited to Teach Number Theory at Summer Olympiad Camp, NurOrda Educational Complex, Astana, **Kazakhstan**
- Summer 2015 Invited to Teach Number Theory at Summer Olympiad Camp, Kazakh-Turkish High School, Almaty, **Kazakhstan**
- Spring 2015 Teaching Assistant for the Linear Algebra Course, University of Tehran, Faculty of Electrical and Computer Engineering
- 2012 - 2015 Teaching Mathematics as a Private Tutor

Projects and Researches

Mathematics

- Ongoing **Research on Superparticular Decompositions and Musical Graphs.** In this study, Dr. Peyman Nasehpour, Nadia Ghobadipasha, and I examine superparticular ratios with number theoretic aspects and then we use those number theoretic results to analyze some of the so-called musical graphs.
- March 2016 **Research on Modular Functions Over Pre-Semirings.** I studied various types of algebraic structures such as pre-semirings, max-plus algebras, tropical algebras with Dr. Peyman Nasehpour. Then, we defined finitely additive, modular, and probability functions on these structures. The results of this study can be found on [arXiv](#).
- 2010 – Present **Moderating AoPS Fora.** I was a global moderator at AoPS (2010 – 2014). I am now in charge of the olympiad community moderation at AoPS, starting 2010.
- 2010 – 2014 **Resource Manager at AoPS.** I was the chief manager of AoPS Olympiad Resources. On 2012, I collected problems of almost all mathematical Olympiad competitions around the world from 1959 to 2012 and published them [here](#).
- January 2011 **Translating and Publishing Iran Olympiad Problems.** I translated and posted problems of Iranian Mathematical Olympiad from 1983 to 2010 to AoPS fora. The problems can be found in [this link](#).
- September 2010 **Manager of ISL–ILL Project.** I posted (and partially solved) problems of Short-List and Long-List of International Mathematical Olympiad (ISL and ILL, respectively) along with my friends [Orlando Doehring](#), Andrew Kirk, Goutham Richlair, and Sameer Seraj. The details of this huge project (containing over 1000 problems) might be found [here](#).
- Spring 2015 **Linear Algebra: Edited and Compiled Course Lectures using LaTeX.** Each session of the class was written in TeX by a student and I and my friend [Sadegh Rahnamoon](#), as the TA's of the course, edited the files and compiled them in a proper way.

Electrical Engineering and Control

- Summer 2015 **Internship at Moshanir Power Engineering Consultants – Instrumentation Office.**
Thesis: Instrument Installation and Hook Up
Advisor: Prof. Farrokh Aminifar
Score: 20/20
- May 2016 **Mechatronics: Magnetic Sensors.** This was a presentation about various types of magnetic sensors and their applications.
- December 2015 **Industrial Control: The SMA Finger.** Design and Implementation of a circuit for feeding the voltage of an artificial finger created using Shape-Memory Alloy (SMA) technology.
- October 2015 **Instrumentation: Electromagnetic Flowmeters with Self-Cleaning Electrodes.** A brief review of flowmeters and several methods such as electric or magnetic excitation through which the electrodes of a flowmeter can be cleaned automatically to avoid inaccuracy in measurement.

- November 2015 **Power System Analysis I: Simulation of a Power System.** Using the software Power World, I simulated a power system containing several given generators and loads.
- January 2015 **Linear Control Systems: Modeling and Simulating Human's Body Skeletal Structure.** In this project, I modeled the skeletal structure of human using an inverted pendulum with two degrees of freedom.

Computer Skills

- Engineering MATLAB, Pspice
Programming C, HTML, Assembly
Typesetting LaTeX, Microsoft Office

Language Skills

- Persian **Native.**
English **Fluent.**
Arabic **Fair.**
Score in National University Exam (Konkour): 86/100

References

- o Professor Peyman Nasehpour (pnasehpo@uni-osnabrueck.de)
- o Professor Amir Ghadermarzi (a.ghadermarzi@ut.ac.ir)
- o Professor Farrokh Aminifar (faminifar@ut.ac.ir)