

# Aydin FARAJI

## PERSONAL DATA

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PLACE AND DATE OF BIRTH: Ilam, Iran | 31 May 1996  
ADDRESS: Sharif University of Technology, Azadi Avenue, Tehran, Iran  
PHONE AND EMAIL: +98 936 130 9492 | [aydin.faraji96@gmail.com](mailto:aydin.faraji96@gmail.com)

## EDUCATION

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*Current* BS. in COMPUTER ENGINEERING, [Sharif University of Technology](#), Tehran  
SEP 2014 GPA: **18.17/20**, GPA of the recent year: **18.57/20**  
JUN 2014 Undergraduate Degree in MATHEMATICS, **Shahid Beheshti Highschool**, Gorgan  
SEP 2010 National Organization for Development of Exceptional Talents (NODET), GPA: **19.29/20**

## INTERESTS

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1. COMPUTATIONAL NEUROSCIENCE
2. COMPLEX SYSTEMS Information Theory, Genetic Algorithms, Cellular Automata
3. ARTIFICIAL INTELLIGENCE
4. AUTOMATA THEORY, LANGUAGES, AND COMPUTATION

## LANGUAGES

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PERSIAN: Native | ENGLISH: Fluent | GERMAN: Basic

## RESEARCH EXPERIENCE

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SEP 2017 Research Assistant At IPM, Dr. Lotfi-Kamran  
SEP 2016 *Cache Replacement Policy*  
Exploring different policies to manage last level cache to optimally reduce writeback count and NVM write operations. We also proposed a novel policy which was submitted to ACM TACO.

## PUBLICATIONS

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SUBMITTED TO **Reducing Writebacks Through In-Cache Displacement**  
ACM TACO Mohammad Bakhshalipour, **Aydin Faraji**, Armin Vakil-ghahani, Farid Samandi, Pejman Lotfi-kamran, Hamid Sarbazi-azad

## COMPUTER SKILLS

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Programming: C (Advanced), C++ (Advanced), BASH Script (Advanced), Python (Intermediate), MATLAB (Intermediate), VERILOG (Advanced), NetLogo (Basic)  
Tools: git, gdb, vim, comfortable with Terminal, iVerilog, Quartus, Arduino  
Operating Systems: macOS, Linux Distributions, Windows  
Typesetting:  $\LaTeX$ , Microsoft Office, Apple iWork  
Familiar With: Qt, Flex, Bison, LLVM, Kernel Programming, Cocos2d-x, PSpice, HSpice

## RELATED COURSES

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FINISHED	<b>Introduction to Complexity</b> , Complexity Explorer's online course taught by Melanie Mitchell
GRADE: 17.3/20	<b>Signals and Systems</b> , Sharif Univ. of Tech.
GRADE: 18/20	<b>Electrical Circuits</b> , Sharif Univ. of Tech.
GRADE: 20/20	<b>Automata Theory and Compilers</b> (Ranked 1 <sup>st</sup> ), Sharif Univ. of Tech.
GRADE: 20/20	<b>Data Structures and Algorithms</b> (Ranked 1 <sup>st</sup> ), Sharif Univ. of Tech.
GRADE: 20/20	<b>Advanced Programming</b> (Ranked 1 <sup>st</sup> ), Sharif Univ. of Tech.
GRADE: 17.8/20	<b>Engineering Probability and Statistics</b> , Sharif Univ. of Tech.
GRADE: 20/20	<b>Numerical Methods</b> (Ranked 1 <sup>st</sup> ), Sharif Univ. of Tech.

## HONORS AND AWARDS

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FALL 2014	Ranked 115 <sup>th</sup> among 83,000 participants of Iran's Region 2 BS. entrance exam. Mathematics & Physics track. (336 <sup>th</sup> among 191,000 in the country)
OCT 2016	Ranked 164 <sup>th</sup> among 2500 international teams in IEEEXtreme Programming Competition

## NOTABLE PROJECTS

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- PIPELINED PROCESSOR [VERILOG] [Design](#) and implementation of a pipelined CPU
- CACHE SIMULATION [C++] Replication of different cache policies ([Cuckoo](#), [Bélády](#), [WADE](#))
- CYTHON COMPILER [LLVM] Compiler with LALR(1) parser for an imperative made-up language; Cython
- 2048 AI [C] Artificial intelligence to solve [2048 puzzle](#) with an algorithm of MONTE CARLO family

## TEACHING EXPERIENCE

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- [Homework/Project TA] INTRODUCTION TO COMPUTER ARCHITECTURE, Dr. Asadi SPRING 2016
- [Homework/Class TA] ADVANCED PROGRAMMING, Dr. JafariNezhad FALL 2016
- [Homework/Class TA] FUNDAMENTALS OF PROGRAMMING, Dr. Gheibi FALL 2015

## HOBBIES

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Swimming, listening to piano, playing/designing computer/board games, learning new languages to maybe find a new thinking paradigm, argue about consciousness, free will, etc.

## REFERENCES

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Available on request.

LAST UPDATED: JAN 2018