

# Nadia Ghobadipasha

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## Curriculum Vitae

### Research Interests

- Machine Learning
- Natural Language Processing
- Artificial Intelligence

### Education

2017–2019 **M.Sc. in Computer Science**, *Simon Fraser University*, Burnaby, British Columbia, Canada.

2012–2017 **B.Sc. in Computer Science**, *University of Tehran*, Tehran, Iran.

(Expected) Total GPA: 3.2/4 or 15.46/20 (up to now) via 123 credits

Last two years GPA: 3.8/4 or 16.88/20 via 61 credits

#### Selected Course Grades.

Artificial Intelligence: 17/20

Biological Computation: 17/20

Data Mining: 16.4/20

Database: 17.5/20

Data Structure: 16.5/20

Numerical Analysis: 18/20

Linear Algebra: 17/20

Differential Equations: 19.19/20

2008–2012 **High School Diploma and Pre-University Course, Mathematics and Physics**, *High School for Exceptional Students (NODET)*, Qaem Shahr, Iran.

GPA: 19.40/20

### Honors and Awards

Summer 2012 Ranked 825 among 103,256 (top 0.7%) in Iranian University Entrance Exam (Konkour) in math and engineering sciences

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: 96 – Reading 21, Listening 24, Speaking 24, Writing 27

GRE General Verbal Reasoning: 146, Quantitative Reasoning: 170, Analytical Writing: 3

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## Publications

- [1] N. Ghobadipasha, P. Nasehpour, and A. H. Parvardi. Superparticular Decompositions and Musical Graphs. 2016. In preparation.

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## Teaching Experience

Spring 2016 **Teaching Assistant for the Course Foundation of Computer Science and Programming.**

Instructor: Prof. Bagher BabaAli

- Designing homeworks and projects
- Grading papers
- Advising students on their projects

2012 – 2015 **Teaching Mathematics as a Private Tutor.**

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## Selected Projects

### Bachelor's Thesis

Spring 2016 **Design of a Farsi Offline Handwritten Text Database.**

School of Mathematics, Statistics and Computer Science

University of Tehran, Tehran

Advisor: Prof. Bagher BabaAli

Score: 20/20

### Academic Projects

Spring 2016 **Software Design:**

- Implementation of a management system for a school in which different roles are defined for school's staff, students, and their parents
- Web-based, developed in Java

Fall 2015 **Biological Computation:**

- Exploiting Genetic Algorithm (GA), Ant Colony Optimization Algorithm (ACO), and Self Organizing Map Algorithm (SOM) to solve the Traveling Salesman Problem (TSP)
- Solving Job Scheduling Problem using Evolution Strategy
- English character recognition using Perceptron, Multilayer Perceptron (MLP), Adaline, and Hebbian Neural Networks
- Developed in MATLAB

Fall 2015 **Data Mining:**

- Income prediction with classification algorithms such as Decision Tree, Random Forest, Boosting, and SVM
- Income prediction with clustering algorithms including K-Means, Fuzzy C-Means, and DBSCAN
- Developed in Python

Spring 2015 **Compiler Design and Implementation:**

- Implementation of a Persian Grammar Checker to check syntactic and lexical errors
- Designed in Java

Spring 2015 **Artificial Intelligence:**

- *The Lazy Agent Problem*
  - Finding the optimal path for the Lazy Agent, a robot having finite fuel, required to perform tasks with different priorities to minimize fuel consumption and maximize profit. Heuristic and Metaheuristic algorithms including A\*, IDA\*, Tabu Search, and Learning Automata were used
  - Developed in Java
- *The Traveling Salesman Problem (TSP)*
  - Solving the problem using Simulated Annealing algorithm
  - Developed in MATLAB
- *Image Processing*
  - A program was designed to enable the user to find out whether an image is grayscale or colored and negative/blur any part of the image
  - Developed in MATLAB

Spring 2015 **Database:**

- Designing and implementing a database for a restaurant with a graphical interface
- Designed using C# and MySQL

Spring 2014 **Data Structure:**

- Solving Sudoku puzzle
- Building a tree to generate Huffman codes
- Implementation of critical path method
- Finding the second minimum spanning tree
- Developed in C++

Fall 2013 **Advanced Programming:**

- Design of an advanced calculator which takes an infix expression as input, converts it into a postfix expression and then calculates the result
- Developed in C++

Fall 2012 **Introduction to Programming:**

- Design and implementation of a chess game
- Developed in Java

## Computer skills

Programming	Java, C++, C#, Python, MATLAB, HTML
Operating System	Windows, Linux
Language Tools	Flex, Bison
Software	IntelliJ IDEA, Visual Studio, Spyder, Eclipse
Typesetting	TeX Studio, Microsoft Office

## Language Skills

Persian	<b>Native.</b>
English	<b>Fluent.</b>
Arabic	<b>Fair.</b>