Noujan Pasha

Department of Computer Science
UC Santa Cruz, CA, US
Webpage

Email: nojan.pasha@gmail.com
npashana@ucsc.edu
LinkedIn

EDUCATION

- **Ph.D, Computer Science, University of California, Santa Cruz**
  Advisor: Professor C. Seshadhri   *Sept. 2016 - Dec. 2021 (expected)*
  GPA: 3.87/4
  Research: Large Network Analysis

  - Efficient algorithms for counting subgraph patterns in large networks

  - Characterizing subgraph patterns countable in linear time

  - Efficient algorithms for subgraph counting in temporal networks

- **BSc, Computer Engineering, Amirkabir University of Technology**
  (Tehran Polytechnic)   *Sept. 2011 - June 2016*
  Thesis: Finding the longest path between any two vertices in rectangular grid graphs

WORK EXPERIENCE

- **Software Engineering Intern, Katana Graph**   *Remote - Summer 2021*
- **Research Scientist Intern, Megagon Labs (formerly RIT)**
          Mountain View, CA - Summer 2017
  Finding similarities between sentences using absorbing random walk on common sense knowledge bases, and creating word embeddings that capture new similarity features for phrases

PUBLICATIONS

- Faster and Generalized Temporal Triangle Counting, via Degeneracy Ordering
  N. Pashanasangi, C. Seshadhri
  KDD, 2021

- Near-Linear Time Homomorphism Counting in Bounded Degeneracy Graphs: The Barrier of Long Induced Cycles
  S.K. Bera, N. Pashanasangi, C. Seshadhri
  Symposium on Discrete Algorithms (SODA), 2021

- Efficiently Counting Vertex Orbits of All 5-vertex Subgraphs, by EVOKE.
  N. Pashanasangi, C. Seshadhri
  ACM International Conference on Web Search and Data Mining (WSDM), 2020

- Linear time subgraph counting, graph degeneracy, and the chasm at size six
  S.K. Bera, N. Pashanasangi, C. Seshadhri
  Innovations in Theoretical Computer Science (ITCS), 2020

HONORS AND AWARDS

- Jack Baskin and Peggy Downes-Baskin Fellowship, 2020-2021

- Best Poster Award, Data Science Day, UC Santa Cruz, 2019

- Regents Fellowship, UC Santa Cruz, 2016

- Ranked 19th in the West Asia Regional ACM-ICPC contest, Tehran, Iran, 2014

- Ranked 20th in the West Asia Regional ACM-ICPC contest, Tehran, Iran, 2013

- Bronze medal in the Iranian National Olympiad in Informatics, 2009 and 2010

ONLINE CERTIFICATE	• Coursera Deep Learning Specialization	

TEACHING EXPERIENCE

- **Teaching Assistant, UC Santa Cruz**
  - Analysis of Algorithms - Graduate — *2018*
  - Introduction to Analysis of Algorithms — *2019, 2018, 2017*
  - Introduction to Data Structures and Algorithms — *2020, 2019, 2016*

- **Teaching Assistant, Amirkabir University of Technology**
  - Data Structures — *2015*
  - Design of Algorithms — *2014*
  - Principles of Computer Programming (C/C++) — *2012*

NOTABLE ACADEMIC PROJECTS

- Machine Learning
  Yelp Recommender Systems: Matrix Factorization Techniques (Python)
  Handwritten digit recognition: neural networks on MNIST dataset (C++, Python)
  Airbnb Price prediction (Python)

- Natural Language Processing
  Mitigating gender bias in word embeddings (Survey)

- Artificial Intelligence
  Sudoku: Solving Sudoku Puzzles using Genetic Algorithm. (C++)

- Web Development
  Simple Google+: Client side and server side of a simple social networking website (HTML5, CSS3, JavaScript, PHP, MySQL)

- Database Design
  Design and implementation: Relational database for a football league (MySQL), Non-relational database for a simple social network (MongoDB, JavaScript)

INVITED TALKS

- Temporal Triangle Counting at UCSC Theory Reading Group — *June 2021*
- Paper Presentation at SODA 2021 - Zoom — *January 2021*
- Homomorphism Counting at UCSC Theory Reading Group — *January 2021*
- Poster Presentation at WSDM 2020 - Houston — *February 2020*
- Subgraph Counting at UCSC Theory Reading Group — *January 2020*
- Paper Presentation at ITCS 2020 - Seattle — *January 2020*
- Poster Presentation at UCSC Data Science Day — *May 2019*

TECHNICAL SKILLS

- C++, Python, Java, Javascript
- scikit-learn, TensorFlow, Keras
- MySQL, MongoDB
- HTML, CSS, PHP
- Git, LaTeX, Vim, Jupyter Notebook, Eclipse IDE, Microsoft Visual Studio, Microsoft Office, Microsoft Windows, GNU/Linux, macOS