

# Saeed Odak

Algorithms Graphs and Geometry Lab, 5170 Herzberg Laboratories,  
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## Educational Background

<b>Ph.D. in Computer Science</b> <i>University of Ottawa, GPA : <math>A^+</math></i>	<b>Ottawa, Canada</b> <i>2021-present</i>
<b>B.Sc in Mathematics</b> <i>K. N. Toosi University of Technology, GPA : 18.35 / 20.00</i>	<b>Tehran, Iran</b> <i>2015–2019</i>
<b>B.Sc in Electrical Engineering</b> <i>K. N. Toosi University of Technology, GPA : 17.21 / 20.00</i>	<b>Tehran, Iran</b> <i>2015–2019</i>
<b>High School Diploma in Mathematics and Physics Discipline</b> <i>National Organization for Development of Exceptional Talents (NODET)</i>	<b>Gorgan, Iran</b> <i>2010–2014</i>

## Research Interests

- Data Structures and Algorithms
- Combinatorics and Optimization
- Structural Graph Theory
- Discrete and Computational Geometry

## Research Experiences and Publications

***Hardness Results on Interesting Paths in Directed Acyclic Graphs***, under preparation 2024

Authors: Jean-Lou De Carufel, Anil Maheshwari, Saeed Odak, Bodhayan Roy, Michiel Smid, and Marc Vicuna

***Tight Bounds on the Number of Closest Pairs in Vertical Slabs***, to appear 2024

Authors: Ahmad Biniiaz, Chaeyoon Chung, Jean-Lou De Carufel, John Iacono, Anil Maheshwari, Saeed Odak, Michiel Smid, and Csaba D. Tóth.

***On  $k$ -planar Graphs without Short Cycles***, Graph Drawing 2024 2024

Authors: Michael Bekos, Prosenjit Bose, Aaron Büngener, Vida Dujmović, Michael Hoffmann, Michael Kaufmann, Pat Morin, Saeed Odak, and Alexandra Weinberger

***Noncrossing Longest Paths and Cycles***, Graph Drawing 2024 2024

Authors: Greg Aloupis, Ahmad Biniiaz, Prosenjit Bose, Jean-Lou De Carufel, David Eppstein, Anil Maheshwari, Saeed Odak, Michiel Smid, Csaba D. Tóth, and Pavel Valtr

***Connected Dominating Sets in Triangulations***, submitted to SoDA 2025 2024

<https://arxiv.org/abs/2312.03399>

Authors: Prosenjit Bose, Vida Dujmović, Hussein Houdrouge, Pat Morin, and Saeed Odak.

***Euclidean Freeze-Tag Problem on Plane***, CCCG 2024 2023

Authors: Nicolas Bonichon, Cyril Gavoille, Nicolas Hanusse, and Saeed Odak.

***On Separating Path and Tree Systems in Graphs***, submitted to journal of DMTCS 2023

<https://arxiv.org/abs/2312.14295>

Authors: Ahmad Biniiaz, Prosenjit Bose, Jean-Lou De Carufel, Anil Maheshwari, Babak Miraftab, Saeed Odak,

Michiel Smid, Shakhar Smorodinsky, and Yelena Yuditsky.

**An Optimal Algorithm for Product Structure in Planar Graphs, SWAT 2022** 2022

<https://arxiv.org/abs/2202.08870>

Authors: Prosenjit Bose, Pat Morin, and Saeed Odak.

**Odd Colourings of Graph Products** 2022

<https://arxiv.org/abs/2202.12882>

Authors: Vida Dujmović, Pat Morin, and Saeed Odak.

**BSc. Thesis: Routing and Wavelength Assignment(RWA) in Optical Networks** 2020

K. N. Toosi University of Technology, Supervisor: Lotfollah Beygi.

## Honors and Awards

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**2023:** PhD Mobility Program in France (MDF) Research Scholarship at University of Bordeaux, France

**2021-2024:** University of Ottawa Doctorate Admission Scholarship and International Doctorate Scholarship

**2018:** Bronze Medal in International Mathematics Competition(IMC)

**2018:** Silver Medal in Iranian Mathematics Competition

**2017:** Bronze Medal in Iranian Mathematics Competition

**2014-2020:** Ranked 2nd among all BSc students of Mathematics

**2018:** 7th Place in ACM ICPC Asia Tehran Regional Contest

**2017:** 9th Place in ACM ICPC Asia Tehran Regional Contest

**2021:** 29th Place in IEEE-Xtreme 15.0 International Programming Contest

**2018:** 27th Place in IEEE-Xtreme 12.0 International Programming Contest

## Student Supervision

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### Marc Vicuna (Masters)

*Efficient Computation of Interesting Paths*

Summer 2022 - Winter 2024

School of Computer Science, Carleton University

## Teaching Experience

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### Teaching as Contract Instructor, Course: 1805D – Discrete Structures I

School of Computer Science, Carleton University

Winter 2023

### Teaching Assistant at University of Ottawa

*Design and Analysis of Algorithms, Data Structures and Algorithms,*

*Discrete Structures, Introduction to Computing I, and Introduction to Formal Languages.*

2021-2023

### Coaching K. N. Toosi University of Technology ICPC Team

K. N. Toosi University of Technology

2019-2020

### Teaching Assistant at K. N. Toosi University of Technology

*Algorithm Design, Data Structures, Calculus I and Calculus II.*

2016-2020

## Paper Reviews

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Conferences: ISAAC 2022, CCCG 2022, CCCG 2023, WADS 2023, SWAT 2024, CALDAM 2024

Journals: Computational Geometry: Theory and Applications, Computing in Geometry and Topology

## Workshops and Summer Schools

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### Summer School in Convex and Discrete Geometry Summer School

Erdős Center - Alfréd Rényi Institute of Mathematics

Budapest, Hungary

2023

<b>Tenth and Eleventh Annual Workshop on Geometry and Graphs</b> <i>Bellairs Research Institute</i>	<b>Holetown, Barbados</b> 2023, 2024
<b>Summer School in Geometry and Topology in a Discrete Setting</b> <i>Berlin Mathematical School</i>	<b>Berlin, Germany</b> 2022
<b>Workshop in Graph Product Structure Theory (21w5235)</b> <i>The Banff International Research Station for Mathematical Innovation and Discovery (BIRS)</i>	<b>Banff, Canada</b> 2021
<b>Workshop in Data Science and Combinatorial Algorithms</b> <i>KNTU, Department of Computer Science and Statistics</i>	<b>Tehran, Iran</b> 2019
<b>Frontiers in Mathematical Sciences (6th conference)</b> <i>IPM - Institute for Research in Fundamental Sciences and Sharif University</i>	<b>Tehran, Iran</b> 2018
<b>Summer School in Mathematics</b> <i>Institute for Advanced Studies in Basic Sciences</i>	<b>Zanjan, Iran</b> 2018

## Languages

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- English
- Persian (Native)
- Turkmen (Native)

## References

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**Professor, Carleton University**  
[Michiel Smid](mailto:michiel@scs.carleton.ca) - [michiel@scs.carleton.ca](mailto:michiel@scs.carleton.ca)

**Professor, Carleton University**  
[Anil Maheshwari](mailto:anil@scs.carleton.ca) - [anil@scs.carleton.ca](mailto:anil@scs.carleton.ca)

**Professor, Carleton University**  
[Pat Morin](mailto:morin@scs.carleton.ca) - [morin@scs.carleton.ca](mailto:morin@scs.carleton.ca)

**Full Professor, Carleton University**  
[Prosenjit Bose](mailto:jit@scs.carleton.ca) - [jit@scs.carleton.ca](mailto:jit@scs.carleton.ca)

**Professor, University of Ottawa**  
[Jean-Lou De Carufel](mailto:jdecaruf@uottawa.ca) - [jdecaruf@uottawa.ca](mailto:jdecaruf@uottawa.ca)

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