

# Avi Kadria

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## Profile

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MSc Computer Science graduate from Bar-Ilan University and former IDF officer with 5+ years of R&D experience in Unit 8200. My academic journey began early, **completing my BSc during high school** and advancing to an MSc with **multiple publications in SODA, a valued peer-reviewed conference**. I presented my work at these international conferences. This academic foundation complements my extensive experience in Unit 8200, where I designed several systems, led critical cyber projects, recruited for 'ARAM', and **built a new security team of engineers from the ground up**. I was recently discharged and am now continuing my PhD full-time, where I research various algorithms for distance-related problems.

## Education

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### Bar-Ilan University

PhD in Computer Science

Ramat Gan, Israel

Oct 2023 - Now

- Won the prestige Clore scholarship for exceptional PhD Students.
- Won the The Feder Family Award for Best Student Work in Communications.
- Studying distance-related graph problems. **Distance Oracles**.

### Bar-Ilan University

MSc in Computer Science

Ramat Gan, Israel

Oct 2017 - Mar 2023

- Researched **girth approximations**, published and presented two papers in the prestigious conferences of **SODA'22** and **SODA'23**.
- Collaborated with **leading global experts** in distance-related problems.
- Recipient of the "Nadav" scholarship for exceptional research, as the sole master's student selected.
- Started During the third year of the BSc, and was a full-time officer at the IDF for most of the degree.

### Bar-Ilan University

BSc in Computer Science and Pure Mathematics

Ramat Gan, Israel

Jul 2015 - Aug 2018

- Graduated with honors at the age of **17**.
- Started in 9th grade and pursued studies in parallel with my high school education.

## Publications

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Compact Routing Schemes in Undirected and Directed Graphs

**Avi Kadria, Liam Roditty**

39th International Symposium on Distributed Computing, DISC 2025, Berlin, Germany, October 27-31, 2025, 2025

New Approximate Distance Oracles and Their Applications - **best paper award winner**

**Avi Kadria, Liam Roditty**

36th International Symposium on Algorithms and Computation, ISAAC 2025, Tainan, Taiwan, December 7-10, 2025, 2025

Improved girth approximation in weighted undirected graphs

**Avi Kadria, Liam Roditty, Aaron Sidford, Virginia Vassilevska Williams, Uri Zwick**

Proceedings of the 2023 ACM-SIAM Symposium on Discrete Algorithms, SODA 2023, Florence, Italy, January 22-25, 2023, 2023

Algorithmic trade-offs for girth approximation in undirected graphs

**Avi Kadria, Liam Roditty, Aaron Sidford, Virginia Vassilevska Williams, Uri Zwick**

Proceedings of the 2022 ACM-SIAM Symposium on Discrete Algorithms, SODA 2022, Virtual Conference / Alexandria, VA, USA, January 9 - 12, 2022, 2022

## Military Service

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### Unit 8200

Cyber R&D Team Lead

Tel Aviv, Israel

May 2022 - May 2024

- Formed a new team of Cyber R&D developers to solve crucial problems in the core of the unit's operations.
- Multidisciplinary team operating at cyber security and intelligence interface. Worked in **Python, C, ASM, HTML/JS, and SQL**.
- Mentored new team members and developed the team's training program from the ground up.
- Led numerous cross-team projects, managing timelines, coordinating tasks, and ensuring successful delivery

### Unit 8200

Recruitment officer for ARAM, GA'ASH, and ARAZIM

Tel Aviv, Israel

Aug 2021 - May 2022

- Conducted over 500 interviews with all relevant applicants.
- Oversaw and modified the entire recruitment process for the most elite tracks of Unit 8200.
- Recipient of the "Nadav" scholarship for exceptional research, as the sole master's student selected.
- Started During the third year of the BSc, and was a full-time officer at the IDF for most of the degree

## **Unit 8200**

R&D engineer

- Expertise in practical cyber security operations in Windows OS-based environments. Worked mainly in **Python and C++**.
- Expertise in complex networks and cyber-security within large organizations.
- Developed new systems and optimized existing methods to increase efficiency and achieve outcomes previously unattainable.

Tel Aviv, Israel

Feb 2019 - Aug 2021

## **Work Experience**

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### **D.S.E**

Algorithms Engineer

U.S.A

May 2018 - Feb 2019

- Applied linear programming to develop and optimize various employee scheduling algorithms.

- Collaborated with multi-country teams and managed timelines to ensure seamless coordination and project success.

Tel Aviv, Israel

### **Bar Ilan University**

Teaching Assistant

Jul 2018 - Feb 2019

- Taught various classes including Intro to CS, Computer Structure, Algorithms 1, Probability, Calculus 1, and Discrete Mathematics.
- Designed tests and assignments, supervised assignment grading, and evaluated exams.

### **Bar Ilan University**

Private tutor

Tel Aviv, Israel

Jul 2018 - Feb 2019

- Taught mainly math and computer science in levels ranging from high school to first degree.
- Organized and led intensive study marathons to support struggling students in successfully completing their degrees.

### **Royal Madness**

Co-Founder

Tel Aviv, Israel

Mar 2016 - Aug 2017

- Development of a cross-platform client-server made in the Unity3D game engine (C# and Java).

## **Skills and Interests**

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**Programming** Python, C, C++, Rust, ASM, (basic level in Java, C#, HTML, JS, SQL, MATLAB, etc.)

**Miscellaneous** Git, bash, Docker,  $\text{\LaTeX}$ , Hebrew (native), English (fluent), French (passable).

**Interests** Reading, Video games, Chess, Bughouse.