

# Bardia Ardakanian<sup>1</sup>

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## EDUCATION

**Amirkabir University of Technology** (Tehran Polytechnic), Tehran, Iran  
**B.Sc.**, Computer Engineering, AI & Robotics — Sep 2019 - Sep 2024  
GPA: **17.73** / 20 (**3.70**/4) — Last Two Years GPA: **18.47/20** (**3.90**/4.0)  
Project: Unsupervised Camera-Lidar Fusion for Fast Region Proposal (Supervisor: Mahdi Javanmardi)

## RESEARCH EXPERIENCE

- Research Assistant**, Robotics Lab, Amirkabir Univ. of Tech. — Sep 2023 - now
- Unsupervised Camera Lidar Fusion for Fast Region Proposal - B.Sc. Project
  - Skills: Python, Pytorch, SciPy
- Research Assistant**, Hardware Lab, Amirkabir Univ. of Tech. — June 2023 - now
- Implemented AI-driven cache replacement policies using reinforcement learning and clustering algorithms, optimizing third-level cache performance.
  - Skills: C/C++, Gem5
- Research Collaborator**, University of Toronto, ECE Dept. — Sep 2022 - Sep 2023
- **Active Learning for Object Detection**: Trained SSD networks using active learning with VAEs and Stable Diffusion to efficiently filter irrelevant images.
  - **Super-Resolution via Explainable AI**: Enhanced SwinIR model robustness on blurry and noisy images using XAI techniques.
  - **Semi-Supervised Semantic Segmentation**: Improved NVIDIA's SemanticGAN accuracy by generating diverse training data with CycleGAN.
  - **Skills**: Python, PyTorch, TensorFlow, NumPy, OpenCV

## PUBLICATIONS & TECHNICAL REPORTS

- Adarsh Salagame, Harin Kumar Nallaguntla, **Bardia Ardakanian**, Eric Si-hite, Gunar Schirner, Alireza Ramezani. "Reinforcement Learning-Based Model Matching to Reduce the Sim-Real Gap in COBRA." Under review at *American Control Conference (ACC)*, 2025. Available: [Link](#).
- Bachelor's Thesis: "Unsupervised Camera-LiDAR Fusion for Fast Region Proposal" (Written in Farsi). Supervisor: Mahdi Javanmardi.
- **Bardia Ardakanian**. "Development of Natural and Artificial Intelligence - Post-Selection Dialogue: Challenges to Post-Selection." *IEEE Cognitive Development Systems Newsletter*, vol. 18, no. 2, pp. 6-11, 2024. Available at: [Link](#).

## LANGUAGES & TEST SCORES

**Persian** (Farsi): Mother tongue (Native)  
**English**: Professional working proficiency (TOEFL: 111 - R28 - L27 - S27 - W29)  
**GRE**: 325 — Quant: 168 (83<sup>rd</sup> percentile), Verbal: 157 (73<sup>rd</sup> percentile), AW: 4.5 (83<sup>rd</sup> percentile)

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<sup>1</sup>Long Version of CV: <https://bardia-ardakanian.github.io/CV/>

## TECHNICAL SKILLS

- **Programming Languages:** Python, C, C++, Java, C#, Go, R, Shell, SQL
- **Frameworks & Libraries:** TensorFlow, PyTorch, Keras, OpenCV, ROS, Scikit-learn, NumPy, SciPy, Pandas, Matplotlib, Django, Angular, Spring, Maven
- **Databases:** PostgreSQL, MySQL, Oracle DB, MongoDB, Redis, Elasticsearch
- **Tools & Technologies:** Git, Docker, Kubernetes, L<sup>A</sup>T<sub>E</sub>X; Ubuntu, Fedora, Kali

## TEACHING EXPERIENCE

Course	Role	Supervisor(s)	Term(s)
Data Structures & Algorithms	Instructor <sup>2</sup>	Dr. E. Nazerfard	Fall 2021
Fundamentals of Linux	Instructor	Amirkabir LinuxFest	Fall 2022
Linux Control Groups	Instructor	Amirkabir LinuxFest	Fall 2022
Database Systems	Head TA <sup>3</sup>	Dr. H. Shahriari	Spr & Fall 2023
Compiler Design	Head TA	Dr. S. Momtazi	Spr 2023 & Fall 2024
Computer Architecture	Head TA	Dr. H. Farbeh,	Spr 2022–Spr 2023
Algorithm Design	Head TA	Dr. A. Bagheri,	Fall 2022
Discrete Mathematics	Head TA	Dr. M. Chehreghani	Fall 2021 & Fall 2022
Applied Linear Algebra	Head TA	Dr. M. Chehreghani,	Spr 2022
Advanced Programming	Head TA	Dr. H. Zeinali	Fall 2021 & Spr 2021
Computational Intelligence	TA <sup>4</sup>	Dr. M. Ebadzadeh	Spr 2023
Data Structures & Algorithms	TA	Dr. S. Shirali-Shahreza	Spr 2022

## WORK EXPERIENCE

**Machine Learning Engineer** Sep 2022 – Present

Sepid Daneh Zarvan Toos Co., Tehran/Mashhad, Iran

- Developed robot control systems for sorting and packaging robotic arms.
- Deployed business analysis and provided new business strategies.
- Optimized delivery service routing and distribution.
- Synchronized the packaging line for core operations like sorting and packaging.

**Software Developer**

Jul 2022 – Sep 2022

System Group Co., Tehran, Iran

- Developed a compensation module for Rahkaran ERP.
- Redesigned the user interface using Angular, JavaScript and HTML/CSS.

**Backend Developer**

Jul 2021 – Jul 2022

Fanap Soft Co., Tehran, Iran

- Led migration of WePod infrastructure to microservices, resulted in 240% speedup.
- Developed critical modules for system recovery.

## HONORS AND AWARDS

- Ranked in the top 20% of undergraduate students in Computer Engineering, Amirkabir Univ. of Tech. 2024
- Among the top 3% in the National Entrance Exam for Graduate Studies in Computer Engineering 2024
- Elected as Head of Student Affairs on the Student Guild Council of the Department of Computer Engineering, Amirkabir Univ. of Tech., CE Dept. 2020
- Lead Coordinator at annual events through the Student Scientific Chapter, Amirkabir Univ. of Tech., CE Dept., 2020
- Among the top 1% in the National Entrance Exam for Undergraduate Studies in Math & Physics 2019

<sup>2</sup>As an **Instructor**, delivered lectures, prepared course materials, supervised TAs, and managed course administration.

<sup>3</sup>As a **Head Teaching Assistant**, coordinated class schedules, prepared instructional materials, supervised TAs, managed assignments and exams, and supported student learning.

<sup>4</sup>As a **Teaching Assistant**, supported student learning through lab sessions, office hours, and assignment grading.