Pooyan Rahmanzadehgervi

Computer Science Ph.D. Fellow

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@pooyanrg ◇ Profile

Biography: Pooyan is a Ph.D. candidate at Auburn University, AL, USA, advised by Anh Nguyen. He has been awarded the prestigious Charles Gavin Research Fellowship for his Ph.D. studies. Previously, he completed his M.S. in 2021 at the Ferdowsi University of Mashhad, working with Ahad Harati and S.K. Ghiasi-Shirazi. His research focus is Deep Learning and Explainable AI, specifically understanding and improving Vision Language Models. The results of his research have also been covered by many media outlets, including TechCrunch and ars Technica.

EDUCATION

Auburn University, AL, USA · 2022 - Present
Ph.D. in Computer Science · Advisor: Anh Nguyen
Thesis: *Towards An Explainable and Editable Attention Bottleneck for Vision Language Models*

Ferdowsi University of Mashhad, Mashhad, Iran · 2017 - 2021
M.S. Artificial Intelligence and Robotics · Advisors: Ahad Harati and S.K. Ghiasi-Shirazi
Thesis: *Autonomous Quadrotor Navigation using End-to-End Deep Reinforcement Learning*

Ferdowsi University of Mashhad, Mashhad, Iran · 2012 - 2017
B.S. in Computer Engineering — Software · Advisor: S.K. Ghiasi-Shirazi
Thesis: *Training a Two-layer Feed-Forward Perceptron to Obtain a Reliable Initialization for an RBF Network*

WORK EXPERIENCE

ATN's AI Lab · Aug 2022 - Present
Research Assistant · Auburn, AL

Auburn University · Aug 2022 - Present
Teaching Assistant · Auburn, AL

Polaris LTD · Sep 2021 - Apr 2022
Machine Learning Engineer · Mashhad, Iran

Cognitive Computation Lab (CCL) · Sep 2017 - Sep 2021
Research Assistant · Mashhad, Iran

Ferdowsi University of Mashhad · Sep 2017 - Sep 2021
Teaching Assistant · Mashhad, Iran

Mazandaran Telecommunication Company · Jun 2015 - Sep 2015
Software Engineering Intern · Babol, Iran

Independent Computational Programming · Aug 2013 - Sep 2020
Developer · Mashhad, Iran

PUBLICATIONS

Full list of publications: 🅖 Scholar profile

Conference papers

C1. Rahmanzadehgervi, P., Nguyen, H.H., Liu, R., Mai, L., Nguyen, A.T., 2024. TAB: Transformer Attention Bottlenecks enable User Intervention and Debugging in Vision-Language Models. arXiv preprint arXiv:2412.18675.

C2. <u>Rahmanzadehgervi, P.</u>, Bolton, L., Taesiri, M.R., Nguyen, A.T., 2024. Vision language models are blind. *In Proceedings of the Asian Conference on Computer Vision.* **Oral** presentation (5.6% acceptance rate).

C3. Nguyen, H.H., <u>Rahmanzadehgervi, P.</u>, Mai, L., Nguyen, A.T., 2025. Improving zero-shot object-level change detection by incorporating visual correspondence. *In 2025 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV).*

C4. <u>Rahmanzadehgervi, P.</u>, Harati, A. and Ghiasi-Shirazi, S.K., 2021. Vision-based obstacle avoidance in drone navigation using deep reinforcement learning. *In 2021 11th International Conference on Computer Engineering and Knowledge (ICCKE).* **Oral** presentation and **Best Paper Award**.

ACHIEVEMENTS & FELLOWSHIPS

· 2022: Charles E. Gavin Research Fellowship
· 2011: National Olympiad of Physics - High School level - 1st round
· 2008 - 2012: National Organization for Exceptional Talents (NODET) (High School - ≤2% acceptance rate)
· 2005 - 2008: National Organization for Exceptional Talents (NODET) (Middle School - 2% acceptance rate)

PRESS COVERAGE

· 2024: **TechCrunch**. Are 'visual' AI models actually blind?.
· 2024: **Tech Xplore**. Visual abilities of language models found to be lacking depth.
· 2024: **ars Technica**. Can you do better than top-level AI models on these basic vision tests?
· 2024: **TechSPOT**. Study shows the best visual learning models fail at very basic visual identification tests.
· 2024: **News Bytes**. Whatever be the claims, AI models can NOT actually see.

SERVICES AND ACTIVITIES

Reviewing
· Conference papers: IEEE ICCKE 2019, IEEE ICCKE 2023, CVPR 2025

Others
· 2022: K6-AI Club Instructor
· 2012 - 2016: Member of the Scientific Society of Computer Engineering Students (SSCES) at Ferdowsi University of Mashhad, Iran.

LANGUAGES

Farsi (Persian)	Native speaker
English	Fluent

REFERENCES   More available upon requests

Dr. Anh Nguyen: Associate Professor, Auburn University		anhnguyen at auburn.edu
Dr. Ahad Harati: Associate Professor, Ferdowsi University of Mashahd,		a.harati at um.ac.ir
Dr. Sayed Kamaledin Ghiasi-Shirazi: Associate Professor, Ferdowsi University of Mashahd		k.ghiasi at um.ac.ir