Yusuf **Dalva**

Research & Teaching Assistant · Ph.D. Student

Department of Computer Science, Virginia Tech

Blacksburg, VA, United States

(+1) 540 524 0907 | ydalva@vt.edu | yusufdalva.github.io

yusufdalva | yusuf-dalva | @yusuf_dalva | Yusuf Dalva

Education

Ph.D. in Computer Science, Virginia Tech, Blacksburg, VA, United States

Aug. 2023 - June 2028 (Expected)

- Research focus: Controllability in diffusion models
- Under the supervision of Pinar Yanardag
- Related coursework: Embodied AI, Learning-based Computer Vision

M.S. in Computer Engineering, Bilkent University

Sep. 2020 - June 2023

- Thesis topic: Image-to-image Translation for Face Attribute Editing with Disentangled Latent Directions
- Under the supervision of Aysegul Dundar
- **Best Master Thesis Award** by IEEE Computer Society, Turkey Chapter
- Related coursework: Computer Vision, Deep Learning, Deep Generative Networks, Computer Graphics (CGPA: 4.00/4.00)
- Awarded **Department Scholarship** at the time of enrollment

B.Sc. in Computer Engineering, Bilkent University

Sep. 2016 - June 2020

- Graduation Project: DRIVision - Mobile-based Driving Assistance Solutions (**Data Science Award**)
- Related coursework: Object-Oriented Software Engineering, Algorithms, Operating Systems, Database Systems (CGPA: 3.67/4.00)
- Awarded **Merit Scholarship** in 2017, 2018, 2019

Publications

- **Y. Dalva**, H. Yesiltepe, and P. Yanardag, "GANTASTIC: Gan-based transfer of interpretable directions for disentangled image editing in text-to-image diffusion models," *arXiv preprint arXiv:2403.19645*, 2024
- H. Yesiltepe, **Y. Dalva**, and P. Yanardag, "The curious case of end token: A zero-shot disentangled image editing using clip," *arXiv preprint arXiv:2406.00457*, 2024
- **Y. Dalva** and P. Yanardag, "NoiseCLR: A contrastive learning approach for unsupervised discovery of interpretable directions in diffusion models," in *IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR)* ***(Oral - top 0.7%)***, 2024
- **Y. Dalva**, H. Pehlivan, O. I. Hatipoglu, *et al.*, "Image-to-Image Translation with Disentangled Latent Vectors for Face Editing," in *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2023
- **Y. Dalva**, S. F. Altındiş, H. Pehlivan, *et al.*, "Benchmarking the Robustness of Instance Segmentation Models," in *IEEE Transactions on Neural Networks and Learning Systems*, 2023
- **Y. Dalva**, S. F. Altındiş, and A. Dundar, "VecGAN: Image-to-Image Translation with Interpretable Latent Directions," in *European Conference on Computer Vision*, Springer, 2022, pp. 153–169
- H. Pehlivan, **Y. Dalva**, and A. Dundar, "StyleRes: Transforming the Residuals for Real Image Editing with StyleGAN," in *IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR)*, 2023
- S. F. Altindis, A. Meric, **Y. Dalva**, *et al.*, "Refining 3d human texture estimation from a single image," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2024

Experience

Research Scientist/Engineer Intern, Adobe Inc.

May. 2024 - Aug 2024

- Mentor: Yijun Li
- Project: Harmonized layered image generation with diffusion models for RGBA images

Teaching Assistant, Virginia Tech

Jan. 2024 - May 2024

- Assisted Course: **AI Tools for Software Engineering**
- Assisted students on projects connecting **software engineering and ChatGPT-related tools**.

Teaching Assistant, Bilkent University

Sep. 2020 - June 2023

- Won **Outstanding Teaching Assistant** award **3** times (2021, 2022, 2023)
- Gave tutorials on **Google Colab** and **PyTorch**
- Assisted Courses: **Introduction to Machine Learning**, Operating Systems, Computer Organization, **Algorithms and Programming I**

Software Engineer Intern, Atlassian, Opsgenie *July 2019 - Sep. 2019*

- Engaged in projects as a part of the Business Operations team
- Translated legacy records to Atlassian database
- Developed **AWS Lambdas** for subscription actions

Achievements, Honors & Awards

2023	**Best Master Thesis Award** Selected as one of the best three master theses by IEEE Computer Society Turkey Chapter
2021 - 2023	**Outstanding Teaching Assistant** Chosen as one of the three most successful teaching assistants in the Department of Computer Engineering of Bilkent University
2020	**Department Scholarship** Full scholarship by the Department of Computer Engineering of Bilkent University for M. Sc. studies
2020	**Data Science Award** Won the award for the project that best uses Data Science
2017 - 2019	**Merit Scholarship** Partial scholarship for B. Sc. studies has been awarded due to outstanding academic performance

Conferences & Presentations

IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR) *Seattle, WA*

Oral + Poster Presentation: "NoiseCLR: A Contrastive Learning Approach for Unsupervised Discovery of Interpretable Directions in Diffusion Models" *June 2024*

IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR) *Vancouver, Canada*

Paper Poster Presentation: "StyleRes: Transforming the Residuals for Real Image Editing with StyleGAN" *June 2023*

European Conference on Computer Vision *Tel Aviv, Israel*

Paper Poster Presentation: "VecGAN: Image-to-image translation with interpretable latent directions" *Sep. 2022*

Skills

Programming	Python, Java, JavaScript, C++, C, Bash, LaTeX
Data Handling	numpy, pandas, matplotlib, seaborn
Tools & Frameworks	Conda, PyTorch, Tensorflow, AWS
Languages	Turkish, English

Voluntary Work

Reviewer

- International Conference on Learning Representations (2024)
- IEEE / CVF Computer Vision and Pattern Recognition Conference (2024)
- The British Machine Vision Conference (2024)
- Computer Vision and Image Understanding (2024)
- International Journal of Computer Vision (2024)
- IEEE Transactions on Neural Networks and Learning Systems (2023)