

Aleksandar Angelov Yanev

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EDUCATION

Sofia University St. Kliment Ohridski, Computer Science — **Sofia, Bulgaria**
GPA: *5.95/6.00* — *October 2023 – Current*
Selected coursework: NLP, ML theory, Information theory, Design and Analysis of Algorithms

RESEARCH & WORK EXPERIENCE

Bending Spoons — **Milan, Italy**
AI research engineer — *July 2026 – October 2026*
- Revamped the AI library search in Vimeo, making the search grounded in videos' visual and textual information
- Revamped the AI chaptering of videos in Vimeo to be more accurate, cheaper to run, and steerable by the user

INSAIT - Institute for Computer Science, Artificial Intelligence and Technology — **Sofia, Bulgaria**
Residence researcher in Computer Vision — *July 2024 – Current*
- Researching into offline evaluation strategies for VLA models using real-world demonstration data
- Creating inference-time prediction ensembles to improve model performance

Smartsoft Healthcare — **Varna, Bulgaria**
Junior Machine Learning Developer — *June 2023 – April 2024*
- Fine-tuning and optimizing the neural network for pathology detection in the lumbar spine
- Integrating and leveraging partially annotated data to boost the model's performance

PUBLICATIONS

- **(CVPR 2026) SPEAR-1: Scaling Beyond Robot Demonstrations via 3D Understanding** Paper
  N. Nikolov, G. Albanese, S. Dey, A. Yanev, L. V. Gool, J. Zaech, D. Paudel
  - Created a pipeline for enriching 2D image data with 3D information used to improve model performance
  - Developed inference-time optimizations using trajectory temporal smoothing, multi-sample normalization, and similarity metrics for multiple action chunk predictions.

- **(arXiv 2024) InTraGen: Trajectory-controlled Video Generation for Object Interactions** Paper | Code
  Z. Liu*, A. Yanev*, A. Mahmood, I. Nikolov, S. Motamed, S. Zheng, D. Paudel
  - Created synthetic datasets to enhance text-to-video models' understanding of physical interactions
  - Exploring diverse control methods to improve interaction comprehension in video generation
  - Advancing novel architectures for text-to-video generation with an emphasis on object interactions

- **Utilizing Autoencoders for Analysis and Classification of Microscopic in Situ Hybridization Images** Paper
  A. Yanev, G. Momcheva, and S. Pavlov
  in *Proceedings of the Bulgarian Academy of Sciences, 2023*

HONORS AND AWARDS

- Open Mathematical Olympiad for University Students 2024 (OMOUS) – Silver medal (ind.), Silver medal (team)
- National Undergraduate Mathematics Olympiad 2024 – Bronze medal
- National Undergraduate Informatics Olympiad 2024, 2025, 2026 – 2nd place, 3rd place, 3rd place
- International Autumn Tournament in Informatics 2019, 2022 – Bronze Medal
- Romanian Masters of Informatics 2022 – Bronze Medal
- International Zhautykov Olympiad in Computer Science 2022 – Bronze Medal

EXTRACURRICULARS

- Teaching Algorithms in Competitive Programming to 10th and 11th graders to prepare them for national and international tournaments at Olympians' Academy since 2023.
- Ex-president of the Library and Student Councils at High School of Mathematics, "Yale Book Award" recipient, Fenced in épée at "Cherno More"