sumapavel@protonmail.com

Pavel Suma

GitHub
Google Scholar

Publications

- ELViS: Efficient Visual Similarity from Local Descriptors that Generalizes Across Domains *ICLR 2026*
  Pavel Suma, Giorgos Kordopatis-Zilos, Yannis Kalantidis, Giorgos Tolias
- Indexing Multimodal Language Models for Large-scale Image Retrieval *CVPR 2026 (Findings)*
  Bahey Tharwat, Giorgos Kordopatis-Zilos, **Pavel Suma**, Ian Reid, et al.
- ILIAS: Instance-Level Image retrieval At Scale *CVPR 2025*
  Giorgos Kordopatis-Zilos, Vladan Stojnić, Anna Manko, **Pavel Suma**, et al.
- LOCORE: Image Re-ranking with Long-Context Sequence Modeling *CVPR 2025*
  Zilin Xiao, **Pavel Suma**, Ayush Sachdeva, Hao-Jen Wang, et al.
- AMES: Asymmetric and Memory-Efficient Similarity Estimation for Instance-level Retrieval *ECCV 2024*
  Pavel Suma, Giorgos Kordopatis-Zilos, Ahmet Iscen, Giorgos Tolias
- Large-to-small Image Resolution Asymmetry in Deep Metric Learning *WACV 2023*
  Pavel Suma and Giorgos Tolias

Education

Prague, Czech Republic — **Czech Technical University**

- PhD in Computer Vision at the Visual Recognition Group. Advisor: Giorgos Tolias. **Feb 2021 – present**
  Research topic: Visual representation with deep learning. Expected defense: March 2027.
- MSc in Artificial Intelligence. 2018 – 2021
- BSc in Software Engineering. 2014 – 2017

Visits and Exchanges

- **École Polytechnique**, France. Research visit hosted by Vicky Kalogeiton, VISTA team. Mar – Apr 2026
- **Delft University of Technology**, Netherlands. Study exchange, AI Specialization. Feb – Jun 2020
- **Kansas State University**, USA. Study exchange, Computer Science Specialization. Aug 2017 – May 2018

Employment

Machine Learning Engineer — **Blindspot AI** — **Jul 2019 – Nov 2020**

- Built PyTorch model training and data processing pipelines for camera-based retail customer tracking.
- Developed a Flask/Docker cybersecurity portal with automated ML risk assessment.
- Prototyped a face aging/animation pipeline integrating open-source PyTorch models for a proof of concept.

Software Developer — **Softec CZ (freelance)** — **Apr 2016 – Mar 2020**

- Led the design and development of a Python/Flask backend using OpenCV for forged identity detection.
- Developed a JavaScript (Botkit) chatbot using the wit.ai NLP engine to automate banker methodology inquiries.
- Extended a large C++/PL/SQL system with modules for automated commission generation & validation.

Academic Service

- Reviewer for CVPR, ECCV, ICCV, ICLR, IJCV, WACV.
- Teaching Assistant for the MSc-level course *Computer Vision Methods* at CTU in Prague.

Accomplishments

- Invited talk at Rossum on the topic of my WACV 2023 publication.
- First place in the Big Data category of UnIT 2019 Prague.

Skills

- Python, PyTorch, Flask, C/C++, C#, .NET, Java, JavaScript, React, PL/SQL
- Languages: Czech (native), English (C2), French (A2)