

BILL PSOMAS

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RESEARCH EXPERIENCE

Doctoral Researcher

National Technical University of Athens

- 📅 Oct 2020 – now 📍 Athens, GR
- Co-supervising undergraduate and master students.
 - Teaching Deep Learning for Advanced Remote Sensing.
 - Contributed to projects:
 1. iToBoS, H2020
 2. RAMONES, FET-H2020
 3. eOSD, KAUST
 - Currently contributing to project:
 1. BiCUBES, HFRI

Computer Vision Engineer

Mismatch

- 📅 Dec 2020 – now 📍 Patras, GR
- Developing computer vision algorithms for sports analytics, focusing on object detection and action recognition.
 - Collaborating with the video production team to enhance game footage using computer vision techniques.

Research Intern

Institute of Advanced Research in Artificial Intelligence

- 📅 Dec 2022 – Jul 2023 📍 Vienna, AT
- Developed “SimPool”, an attention-based pooling mechanism enhancing both convolutional networks and vision transformers.

Visiting PhD Student

Institute of Advanced Research in Artificial Intelligence

- 📅 Jun 2022 – Jul 2022 📍 Vienna, AT
- Conducted literature review on representation learning.
 - Fostered collaborations with the institute’s research team.
 - Familiarized with the institute’s research methodologies.

Research Intern

Linkmedia Team, Inria Rennes Bretagne-Atlantique

- 📅 Feb 2020 – June 2020 📍 Rennes, FR
- Conducted literature review on deep metric learning.
 - Identified and rectified flaws in existing validation setting.
 - Proposed a rigorous validation approach, enhancing the integrity and accuracy of model evaluations.

Research Associate

Athena Research and Innovation Center

- 📅 Sept 2019 – Feb 2020 📍 Athens, GR
- Contributed to the AdVENT project, enhancing visitor experiences in Central Sterea Ellada’s National Parks.
 - Developed an image classification model for plant species identification.
 - Model integrated into an app for real-time plant recognition.

EDUCATION

PhD in Deep Learning for Computer Vision

National Technical University of Athens

- 📅 Oct 2020 – now 📍 Athens, GR
- Focus: Representation Learning
 - Advisors: Prof. Konstantinos Karantzas, Dr. Yannis Avrithis
 - Interned at: IARAI, Vienna
 - Collaborations: Inria Rennes, valeo.ai, IARAI, ELLIS Alicante, ETH Zurich, University of Crete

MSc in Data Science and Information Technologies

National Kapodistrian University of Athens

- 📅 Oct 2018 – Sep 2020 📍 Athens, GR
- GPA: 9.6/10
 - Interned at: Linkmedia Team, Inria Rennes
 - Thesis: “Metric Learning: A Deep Dive”
 - Advisor: Dr. Yannis Avrithis

Diploma in Rural and Surveying Engineering

National Technical University of Athens

- 📅 Sept 2012 – Feb 2018 📍 Athens, GR
- Affiliated with: Remote Sensing Lab, NTUA
 - Thesis: “Investigation of Greek Character Automatic Recognition Methods in Ancient Epigraphic Images”
 - Advisor: Prof. Demetre Argialas

PUBLICATIONS

📄 Journal Articles

- Psomas, Bill et al. (2023). “Keep It SimPool: Who Said Supervised Transformers Suffer from Attention Deficit?” In: *arXiv preprint arXiv:2309.06891*.
- Sdraka, Maria et al. (2022). “Deep Learning for Downscaling Remote Sensing Images: Fusion and Super-Resolution”. In: *IEEE Geoscience and Remote Sensing Magazine*.

👥 Conference Proceedings

- Kakogeorgiou, Ioannis et al. (2022). “What to Hide from Your Students: Attention-Guided Masked Image Modeling”. In: *ECCV 2022*.
- Riccio, Piera et al. (2022). “OpenFilter: A Framework to Democratize Research Access to Social Media AR Filters”. In: *NeurIPS 2022*.
- Venkataramanan, Shashanka et al. (2022). “It Takes Two to Tango: Mixup for Deep Metric Learning”. In: *ICLR 2022*.

OTHER WORK EXPERIENCE

Software Developer

MaP Ltd.

Mar 2018 – Jul 2019 Athens, GR

- Engineered a system for coordinate recognition and dynamic drawing, improving spatial data representation.
- Applied convolutional neural networks for robust face and license plate detection, ensuring real-time data censoring for privacy compliance.
- Led the development of the “CrossClimate” web map application, enhancing user interaction with geospatial data.

HONORS & AWARDS

- 2021:** Computational time grant in the Greek HPC facility ARIS under project PR009017. *GRNET*
- 2019:** Industry 4.0 Crowdhackathon Finalist, Smart Glasses Application. *SEV*
- 2019:** ESA Space App Camp Finalist, AI generated multiplayer mini-games. *ESA ESRIN*
- 2018:** 3rd place in Copernicus Hackathon in Athens, VR Video Game using Copernicus data. *ESA*

SCIENTIFIC ACTIVITIES

- 2023:** Mentor at NASA Space Apps Challenge. *NASA*
- 2023:** Reviewer for International Journal of Computer Vision. *Springer*
- 2022:** Organizer in the 2nd ELLIS Doctoral Symposium. *ELLIS Alicante*
- 2022:** Participant in the Vision and Sports Summer School. *CTU Prague*
- 2022:** Reviewer for:
 - NeurIPS Datasets and Benchmarks Track. *OpenReview*
 - Transactions on Neural Networks and Learning Systems. *IEEE*
 - Transactions on Pattern Analysis and Machine Intelligence. *IEEE*
- 2021:** Mentor at NASA Space Apps Challenge. *NASA*
- 2021:** Participant in the 1st ELLIS Doctoral Symposium. *ELLIS Tübingen*
- 2021:** Participant in the PRAIRIE/MIAI Artificial Intelligence Summer School. *PRAIRIE/MIAI, NAVER Labs, Inria*

TECHNICAL SKILLS

- Representation Learning
- Convolutional Neural Networks
- Vision Transformers
- Supervised Learning
- Self-Supervised Learning
- Network Architecture Design
- Teaching

SOFT SKILLS

- Team Work
- Work Under Pressure
- Learning Potential
- Creativity
- Problem Solving

PROGRAMMING SKILLS

- Python
- Pytorch
- Tensorflow, Keras
- PowerShell, Bash/Zsh
- Latex, Markdown
- Git
- HTML, CSS, Javascript
- C++

LANGUAGES

- Greek (native)
- English (C1)
- German (B1)
- Italian