Giorgos Vernikos

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Research Interests

machine learning, deep learning, transfer learning, multilingual & monolingual natural language processing, language modeling, machine translation, active learning, representation learning, subword segmentation algorithms

Education

Ph.D candidate Lausanne, Switzerland

École Polytechnique Fédérale de Lausanne (EPFL), Electrical Engineering (EDEE)

09/2020-Present

o Supervisor: Prof. Andrei Popescu-Belis

o Focus: multilingual natural language processing, unsupervised & supervised machine translation, subwords

Master of Science (MSc) in Data Science and Machine Learning

Athens, Greece

National Technical University of Athens (NTUA)

10/2018-07/2020

o GPA: 9.22/10

- o Relevant Coursework: Data Mining, Machine Learning, Deep Learning
- o Thesis: Adversarial Fine-tuning of Pretrained Language Models
- o Supervisors: Prof. Andreas Stafylopatis and Dr. Georgios Siolas

BEng & MEng in Electrical and Computer Engineering

Athens, Greece

National Technical University of Athens (NTUA)

09/2011-09/2017

- o GPA: 8.02/10 (top 15% of class)
- Relevant Coursework: Pattern Recognition, Neural Networks, Computer Vision, Digital Signal Processing, Neurofuzzy Industrial and Robot Control
- Thesis: Text-content based analysis of emotions: A Comparative Study of Machine Learning Algorithms and Data Stream Storage Techniques
- o Supervisor: Prof. lakovos Venieris

Erasmus exchange student

Madrid, Spain

Universidad Carlos III de Madrid (UC3M), School of Electrical Engineering

01/2016-06/2016

o Relevant Coursework: Artificial Intelligence, Medical Image Processing

Professional and Research Experience

Research Assistant

Yverdon-Les-Bains, Switzerland

HEIG-VD, Institute for Information and Communication Technologies (IICT)

09/2020-Present

- Project DOMAT: On-demand Knowledge for Document-level Machine Translation, supported by SNSF
- Project FamilyMT: Multilingual NMT for families of languages and dialects, supported by Armasuisse

Machine Learning Engineer

Pireaus, Greece

DeepSea Technologies

09/2018-02/2020

- Worked with real-world noisy and missing data from sensory input.
- o Researched objectives for representation learning and models that could handle very long-range dependencies.
- o Implemented neural networks for vessel consumption and operation optimization and deployed them in production.

Compulsory Military Service

Communications and Network Center

12/2017–8/2018

Private Tutor
Athens, Greece
Freelancer
09/2011-06/2017

o Taught high-school level Mathematics and Physics

Publications

<u>Vernikos, G.</u>, and Popescu-Belis, A. *Subword Mapping and Anchoring across Languages*. EMNLP 2021 (Findings). [paper] [code]

Margatina, K., Vernikos, G., Barrault, L., and Aletras, N. Active Learning by Acquiring Contrastive Examples. EMNLP 2021. [paper] [code]

<u>Vernikos, G.</u>, Margatina, K., Chronopoulou, A., and Androutsopoulos, I. *Domain Adversarial Fine-Tuning as an Effective Regularizer*. EMNLP 2020 (Findings). [paper] [code]

Honors and awards

- Facebook Scholarship for Attendance at EurNLP 2019
 Recipient of travel grant in order to attend the EurNLP summit in London, UK.
- Nationwide University Entrance Examination
 Scored 19.398/20 on the national qualification exams (top 1% nationwide).

Attended seminars

- o Lisbon Machine Learning School (LxMLS), virtual, on-line
- o Athens Natural Language Processing Summer School (AthNLP), Athens, Greece

Programming skills

- o Languages: Python, R, C, Matlab, Bash, Assembly, SQL
- o ML Frameworks: Pytorch, Tensorflow, Keras, scikit-learn
- o Big Data Tools: Apache Storm, Apache Spark
- Other: LATEX, Git, Flask

Languages

Greek (native), English (C2), Spanish (B2), German (B1)