

Giorgos Vernikos

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Research Interests

multilingual & monolingual natural language modeling, (un)supervised machine translation, robustness, subword segmentation algorithms, machine translation evaluation, active learning

Education

Ph.D candidate **Lausanne, Switzerland**
École Polytechnique Fédérale de Lausanne (EPFL), Electrical Engineering (EDEE) *08/2020–Present*

- Supervisor: Prof. [Andrei Popescu-Belis](#)
- Focus: multilingual language modeling, (un)supervised machine translation, subword segmentation
- Graduation (expected): August 2024

Master of Science (MSc) in Data Science and Machine Learning **Athens, Greece**
National Technical University of Athens (NTUA) *11/2018–07/2020*

- GPA: 9.22/10 (excellent)
- Thesis: *Adversarial Fine-tuning of Pretrained Language Models*
- Supervisors: Prof. [Andreas Stafylopatis](#) and Dr. [Georgios Siolas](#)

Erasmus exchange student **Madrid, Spain**
Universidad Carlos III de Madrid (UC3M), School of Electrical Engineering *01/2016–06/2016*

BEng & MEng in Electrical and Computer Engineering **Athens, Greece**
National Technical University of Athens (NTUA) *10/2011–11/2017*

- GPA: 8.02/10 (top 15% of class) 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*
- Supervisor: Prof. [Iakovos Venieris](#)

Professional and Research Experience

Research Assistant **Yverdon-Les-Bains, Switzerland**
HEIG-VD, Institute for Information and Communication Technologies (IICT) *08/2020–Present*

- Projects:
 - [DOMAT](#): On-demand Knowledge for Document-level Machine Translation, supported by SNSF
 - FamilyMT: Multilingual NMT for families of languages and dialects, supported by Armasuisse
 - UniSub: Unsupervised NMT with innovative multilingual subword models, supported by Armasuisse
- Teaching:
 - Analysis of Text Data (AnTeDe) (2020 & 2021)

Research Intern **Zurich, Switzerland**
Google, Google Assistant *10/2022–02/2022*

I worked on large language models with [Eric Malmi](#) and [Jakub Adamek](#).

Applied Scientist Intern **Santa Clara, CA, USA**
Amazon Web Services, AI Labs *04/2022–08/2022*

I worked on machine translation evaluation with [Brian Thompson](#), [Prashant Mathur](#) and [Marcello Federico](#).

Machine Learning Engineer

DeepSea Technologies, AI Research Department

Pireaus, Greece

09/2018–02/2020

I worked with real-world noisy and missing data from sensory input and implemented neural networks for vessel monitoring and cost optimization.

Compulsory Military Service

Communications and Network Center

12/2017–8/2018

Private Tutor

Freelancer

Athens, Greece

09/2011–06/2017

Publications

Vernikos, G., Thompson, B., Mathur, P. and Federico, M., *Embarrassingly Easy Document-Level MT Metrics: How to Convert Any Pretrained Metric Into a Document-Level Metric*. WMT22 (oral). [\[paper\]](#) [\[code\]](#)

Vernikos, G., and Popescu-Belis, A. *Subword Mapping and Anchoring across Languages*. EMNLP 2021 (Findings). Presented at WMT21 (oral). [\[paper\]](#) [\[code\]](#)

Margatina, K., **Vernikos, G.**, Barrault, L., and Aletras, N. *Active Learning by Acquiring Contrastive Examples*. EMNLP 2021 (oral). [\[paper\]](#) [\[code\]](#)

Atrio, À.R., Luthier, G., Fahy, A., **Vernikos, G.**, Popescu-Belis, A. and Dolamic, L. *The IICT-Yverdon System for the WMT 2021 Unsupervised MT and Very Low Resource Supervised MT Task*. Sixth Conference on Machine Translation (WMT21). [\[paper\]](#)

Vernikos, G., Margatina, K., Chronopoulou, A., and Androutsopoulos, I. *Domain Adversarial Fine-Tuning as an Effective Regularizer*. EMNLP 2020 (Findings). Presented at the First Workshop on Simple and Efficient Natural Language Processing (SustaiNLP) (oral). [\[paper\]](#) [\[code\]](#)

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

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

Programming skills

- **Languages:** Python, R, C, Matlab, Bash, Assembly, SQL
- **ML Frameworks:** Pytorch, Tensorflow, Keras, HuggingFace, scikit-learn
- **Big Data Tools:** Apache Storm, Apache Spark, Apache Flume
- **Other:** \LaTeX , Git, Flask

Languages

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