Giorgos Vernikos

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google scholar • github • linkedin • twitter

Research Interests

machine learning, deep learning, transfer learning, multilingual & monolingual natural language processing, language model fine-tuning, machine translation, evaluation, tokenization, active learning, representation 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 natural language processing, unsupervised & supervised machine translation, subword segmentation algorithms

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

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

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

Professional and Research Experience

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

Research Intern   **Zurich, Switzerland**
Google   *10/2022–Present*

I work on text editing 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   **Pireaus, Greece**
DeepSea Technologies, AI Research Department   *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   **Athens, Greece**
Freelancer   *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.* Under review. **[paper]**

Vernikos, G., and Popescu-Belis, A. *Subword Mapping and Anchoring across Languages.* EMNLP 2021 (Findings). Presented at the Sixth Conference on Machine Translation (WMT21). **[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.* 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). **[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, scikit-learn
- **Big Data Tools:** Apache Storm, Apache Spark
- **Other:** LaTeX, Git, Flask

Languages

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