

Giannis Karamanolakis

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Research Interests

Machine Learning, Information Extraction, Natural Language Processing, Deep Learning, Active Learning, Semi/Weakly-Supervised Learning, Transfer Learning, Text Classification/Generation, Question Answering.

Professional and Research Experience

Graduate Research Assistant

09/2017 - now

Columbia University, Department of Computer Science, New York, NY, United States.

Advisors: Luis Gravano, Daniel Hsu

- Working on "Adaptive Information Extraction from Social Media for Actionable Inferences in Public Health".

Applied Scientist / Machine Learning Scientist Intern

05/2019 - 08/2019

Amazon.com, Seattle, WA, United States.

Supervisor: Xin Luna Dong (Product Graph Team).

- Developed deep neural networks for large-scale Knowledge Extraction (ACL 2020 paper, KDD submission).

Machine Learning Engineer

04/2016 - 08/2017

Behavioral Signals, Los Angeles, United States (worked remotely from Athens, Greece).

- Trained statistical models for the recognition of core emotions from conversational speech data.

Research Assistant

01/2016 - 06/2017

"Athena" Research & Innovation Center, Institute for Language & Speech Processing, Athens, Greece.

Supervisors: Alexandros Potamianos, Aggelos Gkiokas, Vassilis Katsouros.

- Applied Deep Learning for the fusion of multimodal (text, audio, visual) semantic representations.

Research Intern

11/2015 - 2/2016

NCSR "Demokritos", Computational Intelligence Laboratory, Athens, Greece.

Supervisors: Theodoros Giannakopoulos, Stavros Perantonis.

- Developed audio-based classifiers for Soundscape Event Detection and Quality Estimation.

Education

Ph.D. in Computer Science

09/2017 - now

Columbia University, New York, NY, United States.

- **Advisors:** Prof. Luis Gravano, Prof. Daniel Hsu. **Current GPA:** 4.26/4.00.

M.Eng. in Electrical & Computer Engineering

09/2011 - 07/2017

National Technical University of Athens, Athens, Greece.

- **Advisor:** Prof. Alexandros Potamianos. **GPA:** 9.26/10.00 (top 2%).
- **Thesis:** "Grounding Word Semantic Representations to Acoustic and Visual Perceptual Modalities".

Publications

9. **Giannis Karamanolakis, Jun Ma, and Xin Luna Dong. TXtract: Taxonomy-Aware Knowledge Extraction for Thousands of Product Categories.** In *ACL*, 2020 (To Appear).
8. **Giannis Karamanolakis, Daniel Hsu, and Luis Gravano. Leveraging Just a Few Keywords for Fine-Grained Aspect Detection Through Weakly Supervised Co-Training.** In *EMNLP*, 2019 (Oral).
7. **Giannis Karamanolakis, Daniel Hsu, and Luis Gravano. Weakly Supervised Attention Networks for Fine-Grained Opinion Mining and Public Health.** In *EMNLP 5th Workshop on Noisy User-generated Text*, 2019 (Oral).
6. **Giannis Karamanolakis, Daniel Hsu, and Luis Gravano. Training Neural Networks for Aspect Extraction Using Descriptive Keywords Only.** In *ICLR 2nd Workshop on Learning from Limited Labeled Data*, 2019.
5. **Katy Ilonka Gero, Giannis Karamanolakis, and Lydia Chilton. Transfer Learning for Style-Specific Text Generation.** In *NeurIPS Workshop on Machine Learning for Creativity and Design*, 2018.
4. **Giannis Karamanolakis, Kevin Raji Cherian, Ananth Ravi Narayan, Jie Yuan, Da Tang, and Tony Jebara. Item Recommendation with Variational Autoencoders and Heterogenous Priors.** In *RecSys Workshop on Deep Learning for Recommender Systems*, 2018 (Oral).
3. **Georgios Paraskevopoulos, Giannis Karamanolakis, Elias Iosif, Aggelos Pikrakis, and Alexandros Potamianos. Sensory-Aware Multimodal Fusion for Word Semantic Similarity Estimation.** In *EUSIPCO Multimodal Processing, Modeling, and Learning (Multi-Learn) Workshop*, 2017 (Oral).
2. **Giannis Karamanolakis, Elias Iosif, Athanasia Zlatintsi, Aggelos Pikrakis, and Alexandros Potamianos. Audio-based Distributional Semantic Models for Music Auto-tagging and Similarity Measurement.** In *EUSIPCO Multimodal Processing, Modeling, and Learning Workshop*, 2017 (Oral).
1. **Giannis Karamanolakis, Elias Iosif, Athanasia Zlatintsi, Aggelos Pikrakis, and Alexandros Potamianos. Audio-Based Distributional Representations of Meaning Using a Fusion of Feature Encodings.** In *INTERSPEECH*, pages 3658–3662, 2016 (Oral).

Fellowships, Honors, and Awards

Leventis Foundation Scholarship, New York, US	08/2019
Ph.D. Service Award, Columbia University, New York, US	05/2019
Gerondelis Foundation Scholarship, New York, US	06/2018
Joseph F. Traub Fellowship, Columbia University, New York, US	04/2018
Addressing the Opioid Epidemic, Design Challenge Award, Columbia University, New York, US	12/2017
Columbia Engineering Presidential Fellowship, New York, US	08/2017 - 05/2022
Eurobank EFG Scholarship, Athens, Greece	06/2012
Hellenic Mathematic Society “Euclides” & “Thales” Awards, Sitia, Greece	02/2009, 03/2010

Technical Skills and Reviewer Activity

Programming: Python (PyTorch, Tensorflow, Keras, Pyro), C++, Java, MATLAB, R, C.

Agile Development & Project Management: Git, JIRA, Jenkins, Scrum, Kanban.

Reviewer Activity: ACL'19, TKDD'19, NeurIPS'19, WWW'19, IEEE-TETCI'18, CSL'17.