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.
Supervisors: 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 (pending conference 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

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: TKDD 2019, NeurIPS 2019, TheWebConf (WWW) 2019, IEEE TETCI 2018, CSL 2017.