Antonios Alexos (Tony or Antonis)

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EDUCATION

University of California Irvine, Irvine, CA, USA
September 2020 - Present

PhD in Machine Learning and Deep Learning
Advisor: Pierre Baldi

Master of Computer Science

University of Thessaly, Volos, Greece
September 2015 - August 2020

Diploma, Electrical and Computer Engineering

(Top 2%) (Rank 4th)

- Major: Computer Science, Minor: Machine Learning

RESEARCH INTERESTS

Deep Learning, Speech Editing, Emotional Speech Recognition, Attention Mechanisms, Transformer, LLMs.

REPRESENTATIVE WORKS

1. *AttentionStitch: How Attention Solves the Speech Editing Problem*
   Antonios Alexos, Pierre Baldi (**NeurIPS workshop**) 2023

2. *FastStitch: Towards speech editing by hitch-hiking a pre-trained FastSpeech2 model*
   Antonios Alexos, Pierre Baldi (**NLDL**) 2024 (**oral**)

3. *Colder Posterior Effect and Advarsarial Robustness*
   Antonios Alexos, Pierre Baldi, Bruce Rushing (**under submission in ICML**

4. *Faster and more efficient Diffusion with Transformers*
   Antonios Alexos, Pierre Baldi, Zhe Yuan, Haodong Zhang (**under submission in ICML**)

5. *Neurodegeneration: Modelling Cognitive Decline with Neural Networks and LLMs (LLAMA 2)*
   with Pierre Baldi, Yu-Dai Tsai, Maryam Pishgar, Ian Domingo, Yuhai Wang (**under submission in ICML**)

6. *Bio-Plausible Diffusion Model*
   Antonios Alexos, Pierre Baldi, and Peter Sadowski (**In the works**)

7. *Alternative of attention mechanism with convolutions*
   Antonios Alexos, Pierre Baldi, Mohammadamin Tavakoli (**In the works**)

8. *Structured Stochastic Gradient MCMC*
   Antonios Alexos*, Alex Boyd*, Stephan Mandt
   International Conference of Machine Learning (**ICML**) 2022

9. *Local Competition and Uncertainty for Adversarial Robustness in Deep Learning*
   Konstantinos Panousis, **Antonios Alexos**, Sotirios Chatzis, Sergios Theodoridis.
   International Conference on Artificial Intelligence and Statistics (**AISTATS**) 2021

WORKING
EXPERIENCE

- Machine Learning Research Intern, Disney Research Imagineering, Glendale - June 2022-September 2022

  - Research on Deep Generative Learning (TTS) models for Speech Editing using Pytorch and Tensorflow.

- Data Science Intern, HILTI, Switzerland - March 2020-July 2020

  - Automated Heavy Diamond Tools with Machine Learning and Statistical Methods using Python.
  - Research probabilistic Machine Learning recommendation systems using Python.
  - Enhancing the emailing process at Oglaend Company using Machine Learning techniques in Python.

- Machine Learning Researcher,CUT University, Cyprus (remote) - July 2019-August 2020

  - Developed a Neural Attention based method for the attribution of key factors in loan origination which was presented in Robust AI in Financial Services workshop, NeurIPS 2019 using Tensorflow.
  - Developed a new Deep Learning method that uses local competition, weight compression, uncertainty and Bayesian Neural Networks towards adversarial robustness which was presented in AISTATS 2021 using Tensorflow.

- Machine Learning Researcher, CERTH (Oactive), Greece - June 2019-August 2020

  - Engineered a machine learning framework for the prediction of Knee Osteoarthritis, utilizing feature extraction from an accelerometer bracelet, which was published in LION2020 using Python.
  - Devised a machine learning-based voting system for the prognostication of pain progression in patients with Knee Osteoarthritis, which was published in IISA2020 using Python.

- Data Science Intern, IN4CAPITAL, London, UK (remote) - June 2018-August 2018

  - Collaborated on data extraction and information retrieval from news websites utilizing the Selenium and BeautifulSoup libraries.
  - Created an investor database and authored multiple data manipulation scripts in Python.

HONORS AND
AWARDS

- Gerondelis Fellowship 2021.
- Edutrip 2019, a program that 25/408 were chosen to visit some of the most prestigious Universities in USA (I visited UC Berkeley).
- Honorary award for final grades at 3rd year of High School by Hellenic Airforce Veteran's Club 2015.
- Honorary award for final grades at 2nd year of High School by Hellenic Airforce Veteran's Club 2014.

HOBBIES   Reading, running, trail running, chess.