

KRITHARAKIS EMMANOUIL

56 Ridgemont Str, Boston 02134

(+1)857-832-1108 ◊ kritharakismanolis@gmail.com

EDUCATION

Boston University (BU), Boston, USA
Msc in Computer Science (CS)

September 2021 - December 2023

- Concentration: Data-Centric Computing
- Current Grade: 3.86/4.0
- Relevant Coursework: User-centric Systems for Data Science, Tools for Data Science, Data Stream Processing and Analytics, Algorithmic Techniques for Taming Big Data
- Thesis title: "Offloading the sampling stage of GNN to smart storage."

Technical University of Crete (TUC), Chania, Greece
M.Eng. in Electrical & Computer Engineering (ECE) (5-year joint degree; 300 ECTS)

October 2014 - October 2019

- Concentration: Computer Science
- Grade: 9.4/10.0 "Distinction", Salutatorian in 2014 class (2nd out of 222 students)
- Relevant Coursework: Statistical Modeling & Machine Learning, Artificial Intelligence, Biomedical Technology, Probability Theory & Statistics
- Thesis title: "Automatic Multi-Document Text Summarization", (Thesis Grade: 10.0/10.0)

PROFESSIONAL & RESEARCH EXPERIENCE

Researcher at Boston University, Boston, USA
Research Assistant at CASP system Lab

September 2021 - December 2023

- Working under the supervision of Dr. Kalavri on representation learning over large graphs.
- Research interests span over Graph Machine Learning, Streaming Processing Systems, Near Storage Computing.
- Worked as Teaching Assistant for:
CS551: Streaming and Event-driven Systems (Spring 23') & CS 506: Data Science Tools & Applications (Fall 23')
- Extensive use of Python, C++, Pytorch / Libtorch, Cuda, Java, Apache Flink, Apache Kafka, Docker, GCP, AWS.

Internship at Lawrence Livermore National Laboratory, Livermore, USA
Computing Scholar Research Intern in Computational Mathematics group at CASC

May 2023 - August 2023

- Worked under the supervision of Dr. Hill on benchmarking explainability algorithms over Graph Neural Networks (GNNs) to detect malware behavior in software binaries.
- Extensive use of Python, Pytorch, Docker, AWS.

Internship at Samsung Semiconductor Inc, San Jose, USA
Systems Technology Research Intern at Samsung MSL group

June 2022 - September 2022

- Worked under the collaboration of Samsung and CASP Lab academic program, accelerating GNNs training stage thanks to near storage calculation techniques.
- Extensive use of C++, HLS programming for FPGAs, Cuda, OpenCL.

Hellenic National Defense General Staff, Athens, Greece
Database Administrator

September 2020 - June 2021

- Worked under the "Unified distributed army mail system" project, interconnecting the military servers all around Greece to be able to send documents through a web app in the private Greek army network.
- Extensive use of PL/SQL for Oracle database and Microsoft SQL Server.

LeasePlan, Athens, Greece
Database Software Engineer

December 2019 - September 2020

- Worked under the "Turn Around" project by updating the corporate software with over 40 user-call database features and was responsible for two inter-corporate projects:

- Estimated rented car's cumulative kilometers.
- Built an webservice called E-Acceptance for automated acceptance of new clients.
- Extensive use of Python, SQL and RPG language.

Internship at CERN, Geneva, Switzerland

June 2019 - September 2019

Summer Research Intern at EP-SFT group

- Worked with the EP-SFT group on a generative machine learning model (Variational Autoencoder) to speed-up a high energy physics experimental simulation tool named GEANT4.
- Gathered, pre-processed & analyzed 3D pictures of sub-particles energy distribution using GEANT4.
- Data Visualization of energy sub-particles distributions with CERN's ROOT software.

Master Thesis Research, Chania, Greece

February 2019 - October 2019

- Gathered, pre-processed & analyzed textual data using Natural Language Processing (NLP) techniques.
- Built a sentence similarity algorithm based on the semantic and the syntactic nature of sentences.
- Incorporated the sentence similarity algorithm in a state-of-the-art multi-document machine learning model.
- Compared multiple documents summaries using several automatic textual evaluation metrics named ROUGE.

PUBLICATIONS

- [1] Kritharakis, Emmanouil, Shengyao Luo, and Karan Unnikrishnan, Vivek Vombatkere. Detecting trading trends in streaming financial data using apache flink. In *the 16th ACM International Conference on Distributed and Event-Based Systems*, DEBS '22.
- [2] Sonia Horchidan, Kritharakis, Emmanouil, Vasiliki Kalavri, and Paris Carbone. Evaluating model serving strategies over streaming data. In *the DEEM@ SIGMOD '22*, pages 4-1. (**Best Paper Award**).

HONORS & AWARDS

Onassis Foundation Scholarship (2021) for supporting my studies as a Master candidate at Boston University Computer Science Department.

ANEK Lines Scholarship (2019) for completing my studies in ECE School of Technical University of Crete as a salutatorian in the class of 2014.

Excellence Award (2019) from ECE School of Technical University of Crete for completing my studies as a salutatorian in the class of 2014.

National Electrical & Computer Engineering Competition (2017) 3rd place award in ECESCON 10 finals among ECE students teams from universities all over Greece.

Excellence Award (2015) in studies of ECE School of Technical University of Crete for receiving the highest grade (9.25/10) of the class of 2014 in my second year of studies.

LANGUAGES

- **English** (Fluent), **German** (Intermediate), **Greek** (Native)

TECHNICAL STRENGTHS & CERTIFICATIONS

Software & Tools C/C++, Python, Pytorch, SQL Java, Kafka, Matlab, Cuda, OpenCL, Docker, GCP, AWS
Certifications AWS Certified Cloud Practitioner, AWS Certified Solutions Architect Associate, AWS Certified Machine Learning - Specialty

SOCIETIES & AFFILIATIONS

- IEEE (Global association for electrical engineering), Member of TUC student branch (2015-2019).