

# KRITHARAKIS EMMANOUIL

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## EDUCATION

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**Boston University (BU)**, Boston, USA

*September 2021 - present*

Msc & PhD in Computer Science (CS)

- Concentration: Representation learning on unbounded graphs.
- Relevant Coursework: User-centric Systems for Data Science, Random Computing, Tools for Data Science, Data Stream Processing and Analytics

**Technical University of Crete (TUC)**, Chania, Greece

*October 2014 - October 2019*

Bsc & Msc in Electrical & Computer Engineering (ECE) (5-year joint degree; 300 ECTS)

- Grade: 9.4/10 "Distinction", Salutatorian in 2014 class (2nd out of 222 students)
- Concentration: Computer Science
- Relevant Coursework: Statistical Modeling & Pattern Recognition, Databases, Algorithms and Complexity, Artificial Intelligence, Probability Theory & Statistics

Thesis title: "Automatic Multi-Document Text Summarization", (Thesis Grade: 10/10)

## PROFESSIONAL & RESEARCH EXPERIENCE

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**PhD candidate at Boston University, Boston, USA**

September 2021 - present

*Research Assistant at CASP system Lab*

- Working under the supervision of Dr. Kalavri on representation learning on graphs.
- In collaboration with Samsung, research is focused on the online partitioning of unbounded graph streams through graph representation methods such as graph neural networks (GCNs) embeddings.
- Working on efficient ways to restore the necessary trained graph embeddings from SSD disks.

**Hellenic National Defence General Staff, Athens, Greece**

September 2020 - June 2021

*Database Administrator*

- Worked under the "Unified distributed army mail system" project, by 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 for testing and development.

**LeasePlan, Athens, Greece**

December 2019 - September 2020

*Software Database Engineer*

- Contributed to a new corporate software for the greek branch of LeasePlan as part of their "Turn Around" Project adding over 40 user-call features and was responsible for two important corporate projects:
  - Estimated rented car's cumulative kilometers.
  - Built an automated E-Acceptance through webservice.
- Extensive use of Python, SQL and RPG language for testing and development.

**Internship CERN, Geneva, Switzerland**

June 2019 - September 2019

*Summer Research Intern*

- Built 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.

**Thesis Research, Chania, Greece**

February 2019 - October 2019

- Gathered, pre-processed & analyzed textual data using Natural Language Processing 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.

## HONORS & AWARDS

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**Onassis Foundation Scholarship (2021)** as a help to offset the living costs of my PhD Computer Science program at Boston University.

**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)** 3<sup>rd</sup> 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

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

## TECHNICAL STRENGTHS

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**Software & Tools**      Python, Pytorch, Keras,Django, SQL, Java, C, RPG , Matlab, R, Git, Linux, Latex

## SOCIETIES & AFFILIATIONS

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