# Konstantinos Kastritis

Email: dinokastritis@gmail.com Mobile: (905) 960-1970
Github: github/kkastr LinkedIn: linkedin/kkastr Website: https://kkastr.github.io
Google Scholar: scholar/kkastr

## Experience

**Ontario Tech University** - *Research Associate*

January 2022 - May 2022 // Remote

- Conducted research in physics of semiflexible polymer translocation.
- Maintained software used for research (Python, C++, CUDA).
- Trained new students.

**Ontario Tech University** - *Graduate Research Assistant*

September 2016 - June 2019 // Oshawa, ON

- Conducted research in the physics of semiflexible polymer translocation.
- Collaborated with experimental physicists to provide theoretical insight into their data, yielding two publications.
- Added functionality to molecular dynamics package used for research (Python, C++, CUDA).
- Maintained and expanded internal cNabLab computer network.

**Ontario Tech University** - *Teaching Assistant*

January 2015 - December 2021 // Oshawa, ON

- Taught students in undergraduate physics and computer science courses.
- Assisted with increasing the amount of programming included in the physics program.

## Projects

**Reddit Sentiment Analysis** - kkastr/reddit-sentiment/

- Scraped comments from various subreddits and stored them in a database using Pandas.
- Performed sentiment analysis on the comments.
- Created visualizations of the sentiment across subreddits, the average sentiment as a function of time for the subreddits, and more.

**Predicting Stock Prices** - kkastr/stock-price-predictions/

- Scraped historical ticker data from finance websites such as Yahoo Finance.
- Used LSTM neural networks to create a simple model for the time series of stock prices.

**Spotify Music Recommender** - kkastr/music-recommendation/

- Interfaced with Spotify developer API to augment dataset obtained from Kaggle.
- Implemented simple music recommendation using a typical cosine distance algorithm.

**Brownian Dynamics in CUDA** - kkastr/cuda-brownian-dynamics/

- Implemented basic brownian dynamics in CUDA, allowing for larger scale particle simulations.
- A version of this code with more complex geometries and directives is used for physics research.

## Skills

**Programming languages**
Python, C, CUDA, SQL, Typescript

**Machine Learning:**
Pytorch, Deep Learning, NLP, Time Series Models

**Platforms**
Linux, Git, Docker

## Education

### Ontario Tech University
*Bachelor of Science - Physics*

September 2012 - May 2016

Minor in Mathematics.

Awarded NSERC undergraduate research award.

Honors Thesis: N-Body Simulations of Dark Matter Halos

### Ontario Tech University
*Master of Science - Materials Science*

September 2016 - June 2019

Thesis: Computational Studies of Semiflexible Polymer Dynamics Under Confinement.

## Languages

Native Greek. Fluent in English.