

Maria Sinziiana Astefanoaei

Postdoc at IT University of Copenhagen
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Education

PhD in Computer Science *University of Edinburgh, UK (2014 –2020)*
BSc with Honours in Computer Science and Mathematics *University of Edinburgh, UK (2010 - 2014)*
Baccalaureate Diploma, Colegiul Național “Emil Racoviță” *Iași, România (2002 - 2010)*

Work experience

Research Internship - Solar Power Prediction *National Institute of Informatics, Tokyo, Japan (2019)*

In a team of 3 students, we built a solar power prediction ensemble model based on numerical weather data forecasts.

Python • PyTorch • Recurrent neural networks • Time series data

Teaching Positions *School of Informatics, Edinburgh, UK (2014 - 2018)*

Tutor, Marker, Teaching Assistant, Demonstrator

Undergraduate and Postgraduate courses: Algorithmic Foundations for Data Science, Introductory Applied Machine Learning, Social and Technological Networks, Discrete Mathematics and Mathematical Reasoning, Data Mining and Exploration, Data and Analysis, Algorithms and Data Structures

Research Internship - Location Prediction *Inria Saclay, Paris, France (2017)*

Built a prototype model for user location prediction from GPS mobility data using contextual information.

Python • Google Maps API • OpenStreetMaps • Bayesian networks • Time series data

Research Internship - Complex Networks *School of Informatics, Edinburgh, UK (2016)*

Devised methods to compare linguistic complex networks based on word frequencies.

Python • Natural language processing • Phonetical networks

Software Developer Intern *TEAM Energy Auditing Agency, Milton Keynes, UK (2013)*

Developed a tool to synchronize the company’s customer databases.

Java • Customer Relationship Management system • dotMailer database

Research Assistant - Computational Biology *Oxford University, Oxford, UK (2012)*

As part of a team of 3 students, I helped design and implement an algorithm for the prediction of RNA secondary structure.

Java • Context-free grammars • Alignment graphs

Academic activities

Complex Networks Seminar

School of Informatics, Edinburgh, UK (2016)

I organised a seminar to discuss areas of Networks Science, such as small-world phenomenon, diffusion processes, community detection with a focus on recent publications.

Outreach

Edinburgh, UK (2012 - 2016)

I delivered workshops for children and young students to learn coding by building computer games. The workshops took place in the Edinburgh Science Festival, the Inspire Summer School, Sutton Trust Summer School and across schools in Edinburgh.

Compucast

School of Informatics, Edinburgh, UK (2016)

I helped to produce, record, and host a bimonthly podcast about Computer Science.

womEncourage Conference

Uppsala, Sweden (2015)

I won a scholarship to present a poster on Methods for Testing the Intrinsic Linearity of Paths in Network Metric Spaces.

Publications

Hyperbolic Embeddings for Music Taxonomy, M S Astefanoaei, N Collignon (NLP4MUSA, ISMIR 2020)

Algorithms for Learning from Spatial and Mobility Data, M S Astefanoaei (PhD thesis, 2020)

Multi-resolution Sketches and Locality Sensitive Hashing for Fast Trajectory Processing, M S Astefanoaei, P Katsikouli, R Sarkar. (SIGSPATIAL 2018)

Distributed Mining of Popular Paths in Road Networks, P Katsikouli, M S Astefanoaei, R Sarkar. (DCOSS 2018)

Euler tours on grids, M S Astefanoaei (Bachelor's degree thesis, 2014)

Awards

Kevin Clarke Memorial Prize

University of Edinburgh, UK (2014)

Top Performance in Computer Science and Mathematics, undergraduate degree

Jury's Prize for the Systems Design Project

University of Edinburgh, UK (2013)

3rd year course which involved designing a football playing Lego robot as part of a team

Vacation Scholarships

University of Edinburgh, UK (2013, 2012)

Scholarships to undertake research projects during the summer vacations

National Mathematics Olympiad

România (2006 - 2009)

Gold, silver, bronze medals