Dragos-Florian Ristache

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EDUCATION

Boston University   Boston, MA
PhD in Computer Science   *September 2022 – present*

Cornell University   Ithaca, NY
Master of Engineering in Computer Science   *August 2016 – May 2017*
- GPA: 3.851

University of Southampton   Southampton, United Kingdom
Bachelor of Science in Computer Science   *September 2013 – June 2016*
- First class honours (A converted)

RESEARCH

I am broadly interested in theoretical computer science, with a focus on graphs and sublinear algorithms.

Independent collaboration with Prof. Philip Klein   *August 2021 – present*
- *Point to point minimum path algorithms in road networks*: we are working on making improvements on this problem using heuristics inspired by planar graphs.

Cornell University projects   *2016 – 2017*
- *Racing algorithms*: worked on new methods for the problem of taking a finite set of deterministic algorithms and finding the one with approximately the smallest average running time over a set of inputs; proved theoretical upper-bounds and wrote a system for benchmarking against existing methods. (independent research project advised by Prof. Robert Kleinberg)
- *Minimum cut algorithms for graph clustering*: turned both graph and feature-vector based datasets into maximum flow setups to solve two set clustering; also implemented traditional ML approaches to confirm comparable performance (part of The Structure of Information Networks course)
- *Automatic code generation through genetic algorithms*: came up with a genetic representation of coding instructions, as well as mutation, crossing and selection methods, that was able to generate code capable of sorting small lists. (part of Advanced AI course)
- *Reactions to randomness in game theory*: surveyed existing results in the areas of risk-aversion and uncertainty modelling. (part of Algorithmic Game Theory course)

University of Southampton thesis   *2015 – 2016*
- *Multi UAV task allocation*: designed, and benchmarked algorithms for the problem of assigning paths and tasks to UAVs in realistic simulations; methods included combinations of graph algorithms like maximum flow and traveling salesman, as well as AI approaches like marginal utility maximization, auctions and evolutionary algorithms. (adviced by Prof. Sarvapali Ramchurn)

TEACHING EXPERIENCE

University of Bucharest   Bucharest, Romania
Instructor for lab and seminars   *Fall and Spring 2021*
- Algorithms and Data Structures – Spring 2021
- Fundamental Algorithms – Fall 2021

University of Southampton   Southampton, United Kingdom
ACM-ICPC training, lectures and mentoring   *2013 – 2016*

Work Experience

Glean Technologies (Software Engineer) *December 2019 – August 2022*
- I am working on search ranking and quality for our enterprise search product. Some of my projects include word stemming, document clustering, and debugging tools for ranking formulas.

Palantir Technologies (Software Engineer) *June 2017 – December 2019*
- I worked in infrastructure and mobile development for Palantir Gotham, a tool for integrating, managing, securing and analyzing enterprise data.

Palantir Technologies (Software Engineering Intern) *June 2016 – September 2016*
- I wrote a framework for generating test data that was as similar as possible to the graph-formatted production data, with limitations on queries. My solution involved sampling from certain known clusters, estimating the edge probability inside and between them and building a graph with a similar amount of nodes and edge layout. This was useful for testing complex operations without touching or copying over real data.

Dropbox Inc. (Software Engineering Intern) *June 2015 – September 2015*
- I worked full-stack on features for the Android application.

Twitter Inc. (Software Engineering Intern) *June 2014 – September 2014*
- I developed the backend for sharing Tweets via Direct Messages.

Awards and Activities

Individual awards
- Google Code Jam: top 1000 in 2015 - 2022 (top 100 in 2021)
- Facebook Hacker Cup: top 500 in 2013 - 2022
- Topcoder Open Algorithm: top 200 in 2018 - 2021
- Bloomberg CodeCon Finals: UK Champion (top 3) and 4th place worldwide in 2016
- Romanian National Olympiad in Informatics: silver medal in 2010 - 2012
- "Algoritmiada" Romanian National Contest: 3rd place in 2010 and 2015

Team awards
- ACM-ICPC Greater New York Regional Contest: 2nd place in 2016
- ACM-ICPC World Finals: 56th place in 2016
- ACM-ICPC North Western Europe Regional Contest: 17th place in 2015, 50th place in 2014, 53rd place in 2013
- ACM-ICPC United Kingdom and Ireland Programming Contest: 6th place in 2015, 5th place in 2013
- IEEExtreme Programming Competition: 10th place worldwide (1st in UK) in 2014, 21st place worldwide (1st in UK) in 2013

Workshops
- Moscow International ACM-ICPC Workshops: Barcelona 2017, and Moscow (remotely in 2017 and 2020)

Technical Skills

Programming Languages: C/C++, Java, Python, Typescript (+ReactJS), GoLang