# CURRICULUM VITAE

### Andrej Ivašković

Last updated: 8th February 2021

---

E-mail: andrej.ivaskovic@cst.cam.ac.uk

Website: dreian.github.io

Academic: www.cl.cam.ac.uk/~ai294

Dreian

andrej-ivaskovic

## Work experience

**Jul–Sep 2018**
Software Engineer Intern, Improbable Worlds Limited, London
*I mainly worked with the in-house game development team by creating tools for their artists and game designers*

**Jul–Sep 2017**
Site Reliability Engineering Intern, Google, London
*I was a member of the SRE team supporting advertiser products like AdWords and AdSense. I developed a simulation framework for a complex orchestration system that sequences automation changes in production.*

**Jul–Sep 2016**
Research Intern, University of Cambridge Computer Laboratory, Cambridge
*I worked with Thomas Sauerwald on the project 'Dynamics of Multiple, Interacting and Concurrent Markov Chains', which aimed to explore new algorithms based on multiple randoms walks that are able to cope with massive and complex data sets.*

**Jul–Sep 2015**
Intern Software Design Engineer, Microsoft Development Center Serbia, Belgrade,
*I was a member the Microsoft SQL Server Engine team that introduced JSON support to Microsoft SQL Server.*

## Education

**2018–present**
PhD in Computer Science, Department of Computer Science and Technology, University of Cambridge
*I am researching effect systems and graded program structures, mainly graded monads and how they can be used to embed program analyses inside the type systems of programming languages. I expect to submit my PhD thesis by the end of 2021.*
*I am also a supervisor, meaning I hold small group teaching sessions for various undergraduate courses (including Algorithms, Computation Theory, Optimising Compilers). Member of Trinity College.*

**2014–2018**
Computer Science Tripos, Trinity College, University of Cambridge
*Bachelor of Arts / Master of Engineering*
*Passed with distinction (First) in fourth year*
*First class in every year, awarded examination prizes*

**2010–2014**
Matematička gimnazija, Belgrade
*Graduated with a 5.0 (maximum) grade point average*

## Skills

- Well versed in solving mathematical and algorithmic problems. Great understanding of probability, statistics and data science.

- **Programming languages:** significant experience with C, C++, C$^\sharp$, Java, Python, OCaml and Haskell; moderate experience with SQL and Prolog; acquintance with Common Lisp and MIPS assembly.

- **Other technologies:** git, shell scripting, Unix, LaTeX and TikZ typesetting.

- **Languages:** Serbian (native speaker), English (fluent speaker), French (B1 certificate from University of Cambridge Language Centre).

## Selected publications

- Andrej Ivašković, Alan Mycroft, *A Graded Monad for Deadlock-Free Concurrency (Functional Pearl)*, 13th ACM SIGPLAN International Haskell Symposium (Haskell'20), 27 August 2020, Virtual Event

- Andrej Ivašković, Alan Mycroft, Dominic Orchard, *Data-Flow Analyses as Effects and Graded Monads*, 5th International Conference on Formal Structures for Computation and Deduction, 29 June–6 July 2020, Virtual Event

- Andrej Ivašković, Adrian Kosowski, Dominik Pajak, Thomas Sauerwald, *Multiple Random Walks on Paths and Grids*, 34th International Symposium on Theoretical Aspects of Computer Science (STACS), 8–11 March 2017, Hanover, Germany

- Petar Veličković, Andrej Ivašković, Stella Lau, Miloš Stanojević, *Viral: Real-world competing process simulations on multiplex networks*, Belgrade BioInformatics Conference (BelBI), 20–24 June 2016, Belgrade, Serbia

## Projects

- Master's project: *Deny-guarantee reasoning in the presence of a heap*.

- Bachelor's project: *Reinforcement learning for automated theorem proving*.

- Won second prize at *Hack Cambridge Recurse (2017)*, worked on project *ctrl-f-vision* with Jawwad Farid, Osman Ramadan and Evgeny Roskatch. The application is supposed to help users retrieve the most recent frames of a continuous video stream in which an object of interest was detected, with object detection performed using deep learning with TensorFlow.

- Finalist in *Hack Cambridge (2016)*, worked on project *Viral* with Stella Lau, Petar Veličković, and Miloš Stanojević. The application runs a centralised server that receives location data from Android devices and uses it to model the spread of epidemics, thus providing researchers in the field of multiplex networks with real-world data.

- Won first prize in the 2nd *mt:s Android Contest* (organised by Telekom Srbija) with Miloš Stanojević for creating the app *Gone Horribly Wrong* for Android devices. *Gone Horribly Wrong* is a puzzle platforming game available on Google Play and currently completely owned by Telekom Srbija. Attended *Mobile World Congress 2013* as a prize.

## Selected awards and scholarships

- Recipient of the Trinity College *Internal Graduate Scholarship* (IGS), providing full funding for my PhD studies until the end of 2021.

- A *Cambridge Trust* and a recipient of the *Trinity College Overseas Bursary* from 2014 until 2018, which provided complete funding for tuition fees and living costs during my undergraduate degree.

- Received commendation as an undergraduate supervisor in the sciences in the *Student-led Teaching Awards*, by the Cambridge University Student Union (CUSU) in 2019, and the *New Wiseman Prize*, by the Departments of Computer Science and Technology.

- Recipient of the *British Computing Society Prize* (awarded by University of Cambridge) in 2016 for outstanding student performance (rank 2 out of 101).

- Recipient of the *G-Research Prize* (awarded by University of Cambridge) in 2015 for being the top student of Part IA Computer Science Tripos.

- Participated in international algorithmic problem solving contests as a secondary school student: *International Olympiad in Informatics* (in 2012 and 2014), *Balkan Olympiad in Informatics* (in 2012 and 2014, won a bronze medal in 2014), *International Zhautykov Olympiad* (2014, won a bronze medal).