

# Frances Cooper

CV

✉ [fmcooper234@gmail.com](mailto:fmcooper234@gmail.com)  
🌐 [francescooper.net](http://francescooper.net)

## Summary

I am a **Software Engineer at Google** working on improving the search quality of Google's internal search engine.

I completed my Computer Science PhD at the University of Glasgow in 2020, researching Matching Problems in the area of Algorithms and Complexity. During my PhD, I interned with **Amazon and Google**, and **founded the Glasgow Women in Computing Science group (GWICS)** group (160+ members). I also created the *Uni-Match* software, used in **8 universities and organisations** in the UK, Ireland, China and Singapore.

I am a **Generation Google Scholar** and a **Software Sustainability institute Fellow**.

## Experience

- 2020 - present **Google**, *Software Engineer at Google*, London, UK.  
Working on improving the search quality of Google's internal search engine.
- 2018-2020 **Founder, Glasgow Women in Computing Science (GWICS)**, Glasgow, UK.  
GWICS holds talks by leaders in academia and industry and provides a supportive network for PhD students and early career researchers. **160+ members**.
- 2019 **Google**, *3 month internship as a Software Engineer at Google*, Munich, Germany.  
Using state-of-the-art techniques, I implemented an end-to-end machine learning model in order to improve search quality of Google's internal search engine.
- 2018 **Amazon**, *3 month internship as a Software Development Engineer at Amazon*, Edinburgh, Scotland.  
Developed new methods to allow advertisers on Amazon to understand who their customers are. This work encompassed graph theory, algorithms and machine learning.

## Computing skills

- Skills Java, Python, C++, Bash, Git
- Interests Algorithms & Complexity, Information retrieval, Machine learning

## Education

- 2015 - 2020 **PhD Computing Science**, *University of Glasgow, Scotland*.  
Researched Matching Problems in the area of Algorithms and Complexity. My thesis is titled: Fair and Large Stable Matchings in the Stable Marriage and Student-Project Allocation Problems.  
For more information, please see *PhD Highlights* section.
- 2013 - 2015 **MSc Software Development**, *University of Glasgow, Scotland*.  
Grade: **Distinction** (highest grade).  
**Class Prize** - highest overall grade (21.2 / 22.0) out of 76 students.  
**Grace Hopper Prize** - highest achieving female student.
- 2009 - 2013 **BSc Mathematics**, *Open University, UK-wide*.  
Grade: **1st Class Hons** (highest grade).  
Whilst studying for this distance learning degree, I worked in special needs and mainstream schools, and volunteered with a drug agency and DeafblindUK.

## Awards and Scholarships

- 2019 **Generation Google Scholarship** (€7000). **1 of 20 winners** from Europe, the Middle East and Africa. Awarded based on "academic performance, leadership, and impact on the community of women in tech".
- 2019 **Software Sustainability Institute (SSI) Fellowship** (£3000). SSI is a national organisation aimed at improving how software is used in research. **1 of 17 winners** from all academic career levels in the UK.
- 2019 **Google Code Jam to I/O for Women 2019** (\$750). Global coding competition winner - placed 177th out of over 1000 competitors. Invited to attend the Google I/O conference in *Mountain View, California*.
- 2017 **3 Minute Thesis (3MT) Finalist**. 3MT is a competition to explain your thesis to a non-technical audience. *University of Glasgow Finalist* and *College of Science and Engineering Commendee*.
- 2015 **EPSRC PhD Scholarship** (approx £63,500). Engineering and Physical Sciences Research Council (EPSRC) funded PhD in Computer Science, University of Glasgow (3.5 years).
- Summer 2015 **Confucius Institute Scholarship, China**. Won a scholarship after previous Chinese language study. Invited to attend a Language and Culture Exchange at *Nankai University in Tianjin, China*.
- 2015 **MSc Software Development prizes**. **Class Prize** (£100) - highest overall grade (21.2 / 22.0) out of 76 students. **Grace Hopper Prize** (£100) - highest achieving female student.
- 2013 **SFC MSc Scholarship** (£5000). Scottish Funding Council (SFC) funded MSc in Software Development, University of Glasgow.

## PhD Highlights

- Founder GWiCS **Founder of Glasgow Women in Computing Science (GWiCS)**. See *Experience* section.
- Invited speaker **Invited speaker at AWIDM** (African Women in Discrete Mathematics) conference in Cape Town, South Africa. Encouraging women graduates into academic research roles.
- Uni-Match software **Creator of Uni-Match software** to perform student-project allocations.
- Used in **8 universities and organisations** in the UK, Ireland, China and Singapore. Access via a web-app is available to universities free on request.
  - **Worldwide 1000s of students optimally allocated** to projects using this software.
  - A version of this software is now available as a [Python Package](#).
- Teaching **Creator of Program-Able ([www.program-able.org](http://www.program-able.org))**, a CS tutorial website aimed at improving basic coding skills. **Lead Instructor for Code First: Girls** (a social enterprise to increase the number of women in tech).
- Conferences Talks and presentations at international Computer Science conferences including: **SEA '18 and '20** (Symposium on Experimental Algorithms), **SICSA** (Scottish Informatics & Computer Science Alliance), **MATCH-UP**, **AlgoUK** and **BCTCS '18, '19 and '20** (British Colloquium of Theoretical Computer Science). **Invited speaker at AWIDM** (African Women in Discrete Mathematics).
- Committees Computing Science Research Students Representative sitting on the School of Computing Science Research Students Committee (representing **100+ research students**). Member of several conference organising committees (including MATCH-UP, BCTCS, PCC). Member of Athena SWAN committee (promoting gender equality) and College level Graduate School Board and Strategic Advisory Board.
- Reviewing External reviewer for the following conferences and journals: WINE (Web and Internet Economics), IEEE: Transactions on Education Journal, IJCAI (International Joint Conference on Artificial Intelligence), MATCH-UP and AAMAS (Autonomous Agents and Multiagent Systems).
- Publications Please see [www.francescooper.net/publications](http://www.francescooper.net/publications) for a full list of publications and software.