

Frances Cooper | CV

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Education

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| University of Glasgow
<i>PhD Computing Science</i> | Glasgow, Scotland
2015 - present |
| <ul style="list-style-type: none">○ Thesis title: Open problems in the area of matching under preferences○ School of Computing Science research student representative○ Tutor (see <i>Teaching</i> section); member of several committees (see <i>Committees</i> section) | |
| University of Glasgow
<i>MSc Software Development, Distinction - Class Prize - Grace Hopper Prize</i> | Glasgow, Scotland
2013 - 2015 |
| <ul style="list-style-type: none">○ Member of committee (see <i>Committees</i> section) | |
| Open University
<i>BSc Mathematics, 1st Class (Hons)</i> | UK-wide
2009 - 2013 |
| <ul style="list-style-type: none">○ Distance learning degree○ Whilst studying, I worked in special needs and mainstream schools, and volunteered with a drug agency and DeafblindUK | |

Awards and Scholarships

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| Google Code Jam to I/O for Women 2019: | 2019 |
| <ul style="list-style-type: none">○ Global coding competition winner○ Expenses paid trip to Google I/O conference in <i>Mountain View, California</i> | |
| 3 Minute Thesis Finalist: | 2017 |
| <ul style="list-style-type: none">○ Competition to explain your thesis to a non-technical audience○ <i>University of Glasgow Finalist</i> and <i>College of Science and Engineering Commendee</i> | |
| EPSRC PhD Scholarship: | 2015 - 2020 |
| <ul style="list-style-type: none">○ Funded PhD in Computer Science, University of Glasgow (3.5 years) | |
| Confucius Institute Scholarship, China: | Summer 2015 |
| <ul style="list-style-type: none">○ Won a scholarship after previous Chinese language study○ Attended a <i>Language and Culture Exchange</i> at <i>Nankai University in Tianjin, China</i> | |
| Class Prize: | 2013 - 2015 |
| <ul style="list-style-type: none">○ MSc Software Development <i>highest overall grade (21.2 / 22.0)</i> | |
| Grace Hopper Prize: | 2013 - 2015 |
| <ul style="list-style-type: none">○ MSc Software Development <i>highest achieving female student</i> | |
| SFC MSc Scholarship: | 2013 - 2015 |
| <ul style="list-style-type: none">○ Funded MSc in Software Development, University of Glasgow | |

Internships

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|--|---|
| (future) Google
<i>3 month internship at Google, Munich</i> | Munich, Germany
July - September 2019 |
| Amazon
<i>3 month internship at Amazon Development Centre, Edinburgh</i> | Edinburgh, Scotland
April - June 2018 |
| <ul style="list-style-type: none">○ 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

General computing skills: Java, Python, Gurobi, Bash, HTML, CSS, Bootstrap, \LaTeX , Git
Areas of interest: Algorithms & Complexity, Integer/Constraint Programming, Optimisation

Enterprises and Teaching

Founder of Glasgow Women in Computing Science (GWiCS) <i>Networking and talks supporting career progression for women in CS</i> <ul style="list-style-type: none">80+ members, talks by leaders in academia and industry	Glasgow, Scotland <i>August 2018 - present</i>
Creator of www.program-able.org <i>A CS tutorial website aimed at improving code efficiency</i> <ul style="list-style-type: none">Articles on e.g. Command line tools, Git, Regex, Sed, Grep	Glasgow, Scotland <i>2018 - present</i>
Lead Instructor for CodeFirst:Girls <i>Enterprise to increase the number of women in tech.</i> <ul style="list-style-type: none">Teaching HTML, CSS, UX, Git & version control, Bootstrap, Javascript and jQuery	Glasgow, Scotland <i>September 2018 - present</i>
Various tutoring and outreach positions <i>For example:</i> <ul style="list-style-type: none">Hacky Hour and Compumatch - Sharing computing skills with researchers in other departmentsTeaching cryptography to schoolchildren (Quantum Cryptography School)Teaching & marking Java Programming at Masters level	Glasgow, Scotland <i>October 2015 - present</i>

Conference Presentations

SEA conference talk - paper presentation <i>Symposium on Experimental Algorithms</i> <ul style="list-style-type: none">Paper title: A 3/2-Approximation Algorithm for the Student-Project Allocation Problem	L'Aquila, Italy <i>June 2018</i>
BCTCS conference talk <i>British Colloquium of Theoretical Computer Science</i> <ul style="list-style-type: none">Title: A 3/2-Approximation Algorithm for the Student-Project Allocation Problem	Royal Holloway, England <i>March 2018</i>
Invited speaker AWIDM <i>Invited speaker at African Women in Discrete Mathematics conference</i> <ul style="list-style-type: none">Encouraging women graduates into academic research roles	Cape Town, South Africa <i>January 2018</i>
SICSA poster presentation <i>The Scottish Informatics & Computer Science Alliance</i> <ul style="list-style-type: none">Title: Hard Variants of the Student-Project Allocation Problem *shortlisted	Dundee, Scotland <i>June 2017</i>
MATCH-UP poster presentation <i>Microsoft Research Centre MATCH-UP conference</i> <ul style="list-style-type: none">Title: Integer Programming for Student-Project Allocation	Boston, USA <i>April 2017</i>

Committees

College of Science and Engineering Strategic Advisory Board:	<i>2018 - 2019</i>
School of Computing Science Research Students Committee:	<i>2017 - 2018</i>
BCTCS conference 2018 organising committee:	<i>2017 - 2018</i>
College of Science and Engineering Graduate School Board:	<i>2017 - 2018</i>
Athena SWAN committee (promoting gender equality in CS):	<i>2015 - 2016</i>
MATCH-UP and COST Action conference 2015 organising committee:	<i>2015 - 2016</i>

Languages

English: Native proficiency

Mandarin: Beginner/Intermediate

Hanyu Shuiping Kaoshi (HSK) level 2 certificate

Publications and software

Publications

- Frances Cooper. Popular Matchings in the House Allocation Problem. Masters thesis. University of Glasgow, School of Computing Science, 2015.
- F. Cooper and D. Manlove. A $3/2$ -Approximation Algorithm for the Student-Project Allocation Problem. In *Proceedings of Leibniz International Proceedings in Informatics (LIPIcs)* 103:8:1-8:13, 2018. Available from <http://drops.dagstuhl.de/opus/volltexte/2018/8943>. The full version is available as Technical Report number 1804.02731, Computing Research Repository, Cornell University Library, 2018. Available from <http://arxiv.org/abs/1804.02731>.

Research software and data

- Frances Cooper and David Manlove (2018). Data: A $3/2$ -approximation algorithm for the Student-Project Allocation problem [Data set]. Zenodo. Available from <https://doi.org/10.5281/zenodo.1186824>.
- Frances Cooper and David Manlove (2018). fmcooper/stable-SPA (Version v1.0.1). Zenodo. Available from <https://doi.org/10.5281/zenodo.1186839>.
- Frances Cooper and David Manlove (2019). Data: Two-sided profile-based optimality in the stable marriage problem (Version 1.0.0) [Data set]. Zenodo. Available from <https://doi.org/10.5281/zenodo.2542704>.
- Frances Cooper and David Manlove (2019). fmcooper/stable-SM (Version v.1.0.1). Zenodo. Available from <https://doi.org/10.5281/zenodo.2545801>.

Uni-Match software

- Frances Cooper. Uni-Match software to perform student-project allocations. Access via a web-app is available to universities free on request. Currently used in several universities in the UK, Ireland, China and Singapore. University of Glasgow, School of Computing Science, 2016. Updated 2019.