

Genetic Improvement 2015 Chairs' Welcome

It is our great pleasure to welcome you to the first international workshop on the Genetic Improvement of Software – GI-2015, held at GECCO'15. Our goal was to bring together research from across the globe to exchange ideas on using optimisation techniques, particularly evolutionary computation such as genetic programming, to improve existing software. We invited short position papers to encourage the discussion of new ideas and recent work in addition to longer and more concrete submissions. The call for participation invited GI work on automatic bug-fixing; improving functionality; improving non-functional properties such as efficiency, memory and energy consumption; “plastic surgery” by transplanting functionality from other existing code to host software; and automatically specialising generic software for dedicated tasks. As you will see, we have accepted papers in most of these areas as well as papers on improving the nascent genetic improvement tools in use, improving parallel code, GI's relationship with software product lines (SPL), improving security and GI for embedded systems.

We had submissions from Asia, Europe and both North and South America. They were exactly evenly split between full-length submissions (8) and two page position papers (8).

Putting together GI-2015 was a team effort. We first thank the authors for providing the content of the program. We are grateful to the program committee who worked very hard in reviewing papers and providing feedback for authors. Finally, we thank our sponsors: the DAASE project lead by the Centre for Research on Evolution Search and Testing (CREST, University College London) and profits from the book “A Field Guide to Genetic Programming” by Riccardo Poli, William B. Langdon and Nicholas Freitag McPhee.

We hope that you will find this program interesting and thought provoking, and that the symposium will provide you with a valuable opportunity to share ideas with other researchers from institutions around the world. We expect that you will notice many areas of software engineering that are not covered. Our primary aim is to encourage you to participate. We hope for many questions along the lines of: “Can GI do X?” to which the reply may be: please try! Go one step better than the White Queen and *do* something considered to be impossible!



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