Mark Harman's CV Summary

Independent data sources on Mark: Google Scholar; DBLP; Semantic Scholar; EPSRC.

Research Grants

Total funding as lead investigator (PI): £**14,687,806**
Career EPSRC funding proposal success rate: **74%** (17/23)
5 of my projects were ranked in first place by the prioritization panel
Grant highlightsI was prinicpal investogator EPSRC **platform (2009-2014)** and EPSRC **programme (2012-2017)** grants and currently hold an **ERC advanced fellowship** (2017-2022).

PhD Supervision

Successfully completed PhDs: **27** (19 as first supervisor; 8 as second supervisor)

Peer reviewed papers

Total:	295
Journals:	103
Conferences:	192

Principal Peer Esteem Indicators

Editorial boards: TSE, TOSEM, JSS, EMSE, SEJ, STVR, SQJ, IST, JSEP.
Program chair: ICSE '18, FSE '15, ISSTA '13, ICST '11, ICSME '04 and others.

Program committee membership:	**243**
Program chair:	**13**
General chair:	**8**
Special issue editor:	**17**
Keynotes and invited conference talks:	**35**
Best paper awards:	**11**
H-index on Google Scholar:	**70** (**20,124 citations**; 28th March 2018)

Member of the EPSRC college since 2003 & ICT Strategic Advisory Team (SAT) 2008–2013. I have 3 papers in the all-time top 100 highly cited papers on Software Engineering[1] and 5 of the top 10 on Search based Software Engineering[2].

Recent Management and Leadership Roles

I am currently engineering manager of the Sapienz Search Based Software Engineering team at Facebook, London. Previously, I was CREST centre director (2006-2017; 30 direct reports). Head of Software Systems Engineering (2012-2017; ∼80 transitive reports). I co-founded the field of Search Based Software Engineering (SBSE), which has ∼ 1700 active researchers in 42 different countries. Departmental Research Excellence Framework (REF2014) Submission Lead: I was the principal architect of UCL CS's first place ranking in the 2014 Research Excellence Framework.

Scientific Advisory Roles and Notable Awards/Prizes

I am a member of the scientific advisory board of the Swedish Wallenberg $100M Autonomous Systems Program (WASP) and the University of Durham Department of Computer Science. GECCO human competitive results (HUMIES), Gold Medal and Bronze Medal 2016, silver medal in 2017 and 2014.

[1] I&ST 2016
[2] SSBSE 2011

Mark Harman's CV Summary (Industry Page)

Vision for the Software Industry

I co-founded the field of Search Based Software Engineering (SBSE) in 2001. The key principle that underpins all my work is to shift software engineering effort from the construction of specific solutions to the construction of search spaces in which those solutions reside. As a result of this shift, many different computational search strategies can now be used to intelligently (and largely automatically) search the space. I believe that, in this way, SBSE offers us a near-optimal combination of the complementary abilities of humans and machines for the task of software development.

Current Industrial Work

Since 2017, at Facebook, the team I manage has been applying this foundational SBSE principle to the development of a system for practical and scalable search based software test design. This is the first system in the world to provide fully friction-free fault finding at this scale: no friction for software developers (who are freed from the tedious, time-consuming task of test case design). Also, no friction for software users (who are freed from finding faults in the software products they use).

Selected Previous Industrial Projects

My PhD students, postdocs and I worked on projects for many companies including Amazon, Daimler, Ericsson, Google, Huawei, IBM, Microsoft, and Motorola. Here is a sample of such industrial projects in reverse-chronological order:

Visa Inc; 2014–2016: I led a team of 4 working on metamorphic testing and test case prioritisation for fraud detection systems, and the application of game theory to ameliorate the fault-severity inflation problem.

Google; 2009-2011: I worked with my PhD student Shin Yoo (now associate prof. at KAIST) on optimised regression testing. The work demonstrated how SBSE techniques could reduce the time needed to find regressions faults. Its findings were published at FSE 2011 and Google's conference GTAC. Subsequent work on regression optimisation at Google is ongoing, but now led by others in the research community.

Microsoft; 2007-2008: I worked with my PhD student Kiran Lakhotia (now CTO at KyePot) on search based software testing, which was incorporated into the Pex tool, and subsequently released as part of Visual Studio in 2012. This work has been cited by Microsoft for its research impact (at ASE 2014) and was one of the research impact case studies included in the UK Research Excellence Framework 2014.

DaimlerChrysler; 2001-2009: I led a team 5 working on incorporating static analysis and search based software testing into DaimlerChrysler's automated testing framework. We had a series of projects, many of which led to highly-cited and influential research publications. I designed and implemented the variable dependence analysis system, VADA, which was successfully deployed to DaimlerChrysler's developers.

Start-ups and Spin-outs

I co-founded the automated test optimisation start-up MajiCKe (liquidated due to the three founders moving to Facebook) and the app analytics spin-out Appredict.