UNIVERSITY OF BIRMINGHAM

Job Description

Post Title and Post Number	Research Fellows in Evolutionary Computation (Two posts available) – 52578
Organisation Advertising Description	School of Computer Science within the College of Engineering and Physical Sciences
Post Number	52578
Full Time/Part Time	Full Time
Duration of post	Fixed Term (Up to 36 months)
Post is open to:	Internal and External Candidates
Grade	7
Salary	Starting salary £28,695 a year in the range of £28,695 to £37,394 a year (potential progression on performance once in post to £39,685 a year).
Additional Information	Informal enquiries may be made to Professor Xin Yao (http://www.cs.bham.ac.uk/~xin/). Two posts available.
Terms and Conditions	**Research and Analogous Staff (non-clinical)**
Closing Date	6 January 2015

Job summary

To create and contribute to the creation of knowledge by undertaking world class research in evolutionary computation and its applications in network optimisation, software engineering, and other domains.

Main duties

- Formulate and define detailed research questions, as guided by the EPSRC projects on “Evolutionary Approximation Algorithms for Optimisation: Algorithm Design and Complexity Analysis”, “Evolutionary Computation for Dynamic Optimisation in Network Environments”, and “DAASE: Dynamic Adaptive Automated Software Engineering”, with the support of the supervisor.

- Carry out world class research, including both theoretical analysis and experimental studies, evidenced by research outputs in top international venues (journals and conferences).
- Contribute to writing bids for further research funding.
- Assist the supervisor in teaching activities, including lecturing, tutoring, etc.
- Apply knowledge in a way which develops new intellectual understanding.
- Disseminate research findings for publications in international journals and conferences, and research seminars.
- Supervise BSc and MSc students on research related work and provide assistance to the supervisor in guiding PhD students where appropriate.
- Contribute to developing new theories, techniques and methods in meta-heuristic optimisation.
- Undertake management/administration arising from research and teaching, including organising project meetings with both internal and external collaborators, organising workshops, producing project progress reports, etc.
- Contribute to Natural Computation Group/School research-related activities and research-related administration, i.e., coordinating seminar series, hosting visitors and their seminars, leading discussion groups, etc.
- Contribute to enterprise, business development and/or public engagement activities of manifest benefit to the Group, School, College and the University, under supervision of the project PI, e.g., outreach to industry, development of demos, etc.
- Provide guidance, as required, to support staff and any students who may be assisting with the research.
- Deal with problems that may affect the achievement of research objectives and deadlines.

Scope of the Role

- Work within the three specified EPSRC research projects.
- Assist the supervisor's teaching activities.
- Contribute to writing further bids.
- Carry out world class research, as measured by the outputs in top international journals and conferences.
- Contribute to industrial collaborations, including outreach and development of joint research projects.
- Assist the supervisor in managing the research projects and the research team.

Person specification

- PhD in Evolutionary Computation or a closely related area.
- High level analytical capability and mathematical skills, e.g., in applied probability and statistics.
- Excellent software development skills.
- Ability to communicate complex information clearly, both in writing and speaking.
- Has a track record of high-quality research, evidenced by publications in leading journals and conferences, or by the PhD thesis.
- Ability to manage his/her own research progress independently with limited supervision.
- An outstanding team player who can also work independently.

Planning and Organising

- Contribute to the planning and organising of the research projects, i.e., initiating and coordinating project meetings, monitoring project progresses, producing project progress reports, liaising with external project collaborators, etc.
- Co-ordinate own work in terms of research, teaching, and research-related management so that deadlines are met.

Decision Making

- Decide, in consultation with the principal investigator, on the most appropriate way of undertaking the specified research activities
- Decide, in consultation with the principal investigator, on a timed schedule of research activities that will lead to tangible research outputs in terms of publications and software.
- Decide, in consultation with the principal investigator, on the topics and the number of BSc/MSc student projects to supervise.
- Decide the detailed research programme of any BSc/MSc student projects supervised.
- Give guidance, support and advice to students on research related work, including PhD students, and decide the most appropriate method of providing this supervision.

Internal/External Relationships

Under the general scope of the three EPSRC projects:

- Liaise with research staff and support staff on research-related matters
- Liaise with external collaborators on the research, where appropriate
- Give presentations and/or contribute to presentations at national and/or international conferences
- Referee articles for peer-reviewed academic journals and conferences
- Liaise with the relevant external research community via seminars and conferences
- Participate in internal networks for the exchange of information and to form relationships for future collaboration
- Liaise with companies and other non-academic organisations to explore potential collaborations