



PHD SCHOLARSHIP

Convergence Speed of Optimisation Algorithms

SCHOOL OF MATHEMATICS AND APPLIED STATISTICS (SMAS), UNIVERSITY OF WOLLONGONG, AUSTRALIA

An exciting PhD scholarship is available in the School of Mathematics and Applied Statistics (SMAS) at the University of Wollongong, South Western Sydney campus, in the area of Optimisation. The title of the project is Determining the Convergence Speed of Derivative-free Optimisation Algorithms. The UOW scholarship is AUD \$28,592 per year for three years full-time. Tuition fees for international students (for up to 3.5 years) will be waived. The successful applicant will have the opportunity to work with both Australian and international collaborators, and extra funding is available for conference travel.

Applications are invited from domestic and international students who are able to commence PhD studies at the University of Wollongong in 2021. Applicants should hold, or be close to completing, an Honours 1 undergraduate degree or a Master's degree in Applied Mathematics, Computational Mathematics or a closely related field. The ideal candidate will have an interest in optimisation algorithms and be happy to work with derivative-free methods. Excellent mathematical and programming skills and an interest in using them to further current research are essential. Self-motivation, a strong research potential and good oral and written communication skills are indispensable qualities the winning candidate will have.

The successful applicant will learn about Nonsmooth Optimisation techniques that do not use gradient information. Instead, they use approximations of gradients and are termed Derivative-free methods. In particular, the recently developed Derivative-free VU-algorithm (DFOVU) is of interest. The candidate will investigate, posit and prove the convergence speed and properties of the DFOVU method, comparing to the classical VU-algorithm and to other derivative-free methods. Extensive numerical testing and validation of convergence rates against similar methods is part of the research project.

HOW TO APPLY

If you are interested in applying for this scholarship, please contact Dr Chayne Planiden via email: chayne@uow.edu.au. Applications must include CV detailing previous education experience and academic transcripts. It is expected that the successful applicant will be available to commence this scholarship by 31 August 2021.

Applications close December 31 2020.

MORE INFORMATION

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