



LECTURER

DEPARTMENT/UNIT	Data Science Group
FACULTY/DIVISION	Faculty of Information Technology
CLASSIFICATION	Level B
WORK LOCATION	Caulfield campus

ORGANISATIONAL CONTEXT

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at www.monash.edu.

Monash is a university of transformation, progress and optimism. Our people are our most valued asset, with our academics among the best in the world and our professional staff revolutionising the way we operate as an organisation.

For more information about our University and our exciting future, please visit www.monash.edu.

The **Faculty of Information Technology** aims to lead global IT research and education. Our strong reputation and international profile attracts the best students worldwide and we offer a range of accredited courses that transform our graduates into highly skilled and sought after IT professionals, equipped to work globally. Our research is multi-disciplinary, multi-campus and multi-national, giving us a unique capacity to reach out further and deeper than any other institution in Australia. Our research priorities are both technically ambitious and embedded in everyday life.

To learn more about the faculty and the exciting work we do, please visit www.monash.edu/it.

The AI-based Discrete Optimization research group in the Faculty of Information Technology is a world leading research group in discrete optimization. Together with partners at the University of Melbourne and Data61, it has created and continues to develop MiniZinc, the leading modelling language for constraint programming; and lazy clause generation CP solving, which provides the state of the art CP solving technology. The Faculty is seeking to significantly expand the AI-based Discrete Optimization research group, to build on its world leading capabilities to make discrete optimization more accessible and more effective. In particular, we are looking for an enthusiastic academic with strong skills in the development and application of techniques in any of the following research areas: constraint programming, mixed integer programming, SAT and SAT modulo theories, combinatorial search, modelling languages and program analysis. Expertise in the application of optimisation to large-scale problem instances containing combinations of discrete choices and non-linear constraints (of key importance in emerging research for renewable energy systems operation and planning, transport and health) would be ideal.

To learn more about the AI-based Discrete Optimization research group and the work we do, please visit <https://www.monash.edu/it/data-science/optimisation>. To learn more about our work in the energy area, please visit <https://www.monash.edu/memsi/grid-innovation-hub>.

POSITION PURPOSE

Level B academics are expected to make contributions to the teaching effort of the University and to carry out activities to maintain and develop their scholarly, research and/or professional activities relevant to the profession or discipline.

The AI-based Discrete Optimisation group is a world leader in the development of techniques for modelling and solving discrete optimisation problems, and its application to industrial problems. The applicant will be expected to contribute to the research and teaching activities of this group and to collaborate with its members through the supervision of PhD students, the development of grant proposals, the writing of papers, and the development/delivery of teaching units.

Reporting Line: The position reports to the AI-Based Discrete Optimisation Group Lead

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budget Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level B academic may include:

1. The conduct of tutorials, practical classes, demonstrations, workshops, student field excursions, clinical sessions and/or studio sessions
2. Initiation and development of subject material
3. Acting as subject coordinators; the preparation and delivery of lectures and seminars
4. Supervision of the program of study of honours students or of postgraduate students engaged in course work
5. Supervision of major honours or postgraduate research projects
6. The conduct of research
7. Involvement in professional activity
8. Development of course material with appropriate advice from and support of more senior staff
9. Marking and assessment
10. Consultation with students
11. A range of administrative functions the majority of which are connected with the subjects in which the academic teaches
12. Attendance at departmental, school and/or faculty meetings and/or membership of a number of committees

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - A doctoral or masters qualification in the relevant discipline area or equivalent accreditation and standing

Knowledge and Skills

2. Possess a high level of interpersonal skills and demonstrated ability to work independently and as part of a team across both the education and service sectors
3. Demonstrated publication record in high-quality refereed journals and conferences
4. Ability to work positively and cooperatively with students, internal and external teams and external organisations
5. Demonstrated record of teaching experience in a tertiary environment
6. Demonstrated ability to motivate, actively engage and educate a given audience
7. Demonstrated experience in subject material development
8. Proven ability, commitment and passion for engaging in scholarly and research activities
9. A demonstrated capacity to work in a collegiate manner with other staff in the workplace
10. Demonstrated research impact in any of the following areas: constraint programming, mixed integer programming, SAT and SAT modulo theories, combinatorial search, modelling languages and program analysis
11. Expertise in the application of the above techniques to large scale industrial problems in areas such as energy, transport and health, would be desirable

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted
- A current satisfactory Working With Children Check will be required

LEGAL COMPLIANCE

Ensure you are aware of and adhere to legislation and University policy relevant to the duties undertaken, including: Equal Employment Opportunity, supporting equity and fairness; Occupational Health and Safety, supporting a safe workplace; Conflict of Interest (including Conflict of Interest in Research); Paid Outside Work; Privacy; Research Conduct; and Staff/Student Relationships.