

OSCAR TIN YIU LAI

Australian Citizen

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U13 4-8 Mildred Ave, Hornsby, NSW 2077

PERSONAL STATEMENT

I am an enthusiastic individual who persuade to exceed expectations. Collaboration and working as a team always helps me to think in a new angle. I am interested in solving complex challenges while developing elegant solution and algorithm. The world of abstract thinking brings the beauty of simplicity. To me, engineering is about simplifying complexity.

EDUCATION

University of Sydney, Camperdown, NSW 2006 Mar 2018 - Present

Doctor of Philosophy in *Engineering & Information Technologies*

- ▷ Research interests: Machine learning in field Robotics on Reinforcement Learning
- ▷ The aim is to develop reinforcement learning (RL) agent that can learn policies directly from high-dimensional sensory inputs, and makes value judgement based on both spatial and temporal scale by estimating total rewards that an agent can expected with minimal human interference.

University of Sydney, Camperdown, NSW 2006 Mar 2013 - Nov 2017

B. Civil Engineering in *Structural* & B. Science in *Computer Science (Honours Class I)*

- ▷ Civil Engineering specialised in Structural, core studies included:
 - Steel Structural Behaviour - Geotechnical Techniques - Fluid Behaviour
 - Reinforce Concrete Design - Site Surveying - Project Management
- ▷ Computer Science major core studies included:
 - Algorithm Complexity & Development - Language / Compiler Implementation
 - Object-Oriented Software Design - Artificial Intelligence

Cherrybrook Technology High School, Cherrybrook, NSW 2126 Jan 2006 - Dec 2012

HSC Subjects in:

- *English* - *Engineering* - *Mathematics* - *Mathematics Ext.1*
- *Japanese* - *Chemistry* - *Physics*
- ▷ First in school in *Mathematics, Engineering.*
- ▷ HSC Band 6/E4 in in *Mathematics, Mathematics Extension 1, Engineering, Japanese*

WORK & EXPERIENCE

University of Sydney Library Aug 2018 – Present

Peer Learning Advisor

University of Sydney, Camperdown, Sydney

- Provides roving peer to peer support to students from a range of disciplines
- Facilitate workshops, services, forums and online communities to engage and help students
- Prompt innovation technology, e.g., 3D printer, digital carving machine, recording studio, and VR

University of Sydney – ITAS Apr 2016 – Present (Seasonal)

Indigenous Tutorial Assistance Scheme Tutor

University of Sydney, Camperdown, Sydney

- Help indigenous students whose in Indigenous Tutorial Assistance Scheme (ITAS), an academic initiative of the Commonwealth Government's tutorial support
- Academic supports for their understanding of academic concepts and assignments
- Rehired throughout different semesters (*Apr – Jul 2016; May – Jul 2017; Apr 2018 - Present*)

AECOM

Dec 2016 – Feb 2017

*Geotechnical Intern**138 Shatin Rural Committee Road, Hong Kong*

- Worked in a geo team that mainly focus on ELS (Excavation Lateral Support) and site monitoring
- Tasks included checking force balance/rotational moments within struts, designing different stages within an excavation, providing temporary work for structural support
- Schedule laboratory triaxial test of on-site drillholes, to obtain soil properties and site profile
- Use PLAXIS to obtain diaphragm walls forces, use SLOP/W and SEEP/W for modelling soil behaviour
- Involved in projects such as HK Metro Station Excavation, HK Airport Sub-sea Tunnel monitoring etc.

Meinhardt (C&S), Hong Kong Limited

Dec 2015 – Feb 2016

*Structural Team Trainee**33-35 Wong Chuk Hang Rd, Hong Kong*

- Work on amendments from building department, updates CAD files of draftings
- Modelling collision impacts, performing calculation via ETABS, SAFE etc. against building standards
- Work as a group to check calculation of safety measure; eg. connections and member capacity checking
- Create 3D models of structural interior or temporary work via software like Sketchup and Navisworks
- Been involved in projects such as Ocean Park tender, Boiler upgrades, HK airport hangar design etc.

University of Sydney – Club & Societies

Mar 2013 - Nov 2017

*Voluntary uni club executive**University of Sydney, Camperdown, Sydney*

- Organizing, planning, and leading social activities that are targeted towards uni students
- Supervising and holding official meetings with other club executives
- Communicating with uni coordinators and professor whenever needed

Cherrybrook Technology High School

Nov 2012 - Aug 2013

Private tutor

- Provide private tutor twice a week to high school students taking Maths & Physics
- Develop lessons, activities to teach students with improved studying skills and test scores

PERSONAL STRENGTHS**Key Skills**

Critical thinking in approaching challenges
 Quick adaptation in unseen environment
 Visualise complex problem w/ abstract thinking

Language

Fluent in *English, Cantonese*
 Intermediate in *Mandarin, Japanese*

TECHNICAL STRENGTHS**Computer Languages**

C/C++, MATLAB, Java, Python, PostgreSQL, HTML, JavaScript, CoffeeScript, jQuery, Lisp, Haskell, ProLog, ANTLR4

Professional Applications

Abaqus FEA, MatLab, AutoCAD, ETAB, SAFE, PLAXIS, SLOP/W, SEEP/W, Google Sketchup, Navisworks

General Software & Tools

Word, Excel, PowerPoint, Publisher, iWork, L^AT_EX, Adobe Photoshop, Illustrator

Operating Systems

Linux, MacOS X, Windows, Robot Operating System (ROS)

Miscellaneous

Software configuration management, strong verbal and written communication skills, excellent troubleshooting and debugging skills, exceptional problem solving skills