

## Dr Tristan Friedrich KLEINSCHMIDT

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NATIONALITY Australian

DATE OF BIRTH 30th of December 1983

CONTACT INFORMATION 371 Beach Road  
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PROFESSIONAL PHILOSOPHY

- Problem solving: find the right tool and approach to solve the problem
- Communication: simplify complexity, make it actionable
- Enablement: insights are only part of the consulting framework
- Team management: build a community

DATA SCIENCE SKILL SUMMARY

- Discrete-event simulation (DES): 11 yrs experience delivering DES for capital and operational decisions, across mining & minerals and financial institutions
- Mathematical optimization: manufacturing production scheduling & commodity pricing using mixed integer programming
- Machine learning (ML): arrival prediction of bulk carriers using gradient-boosted machines

DATA SCIENCE SOFTWARE SKILLS

- Languages: Python, Java, C/C++
- Simulation: AnyLogic, ARENA
- Optimization: Python (PuLP, pyomo), AIMMS, Gurobi
- Machine Learning: Python, sci-kit learn
- General: Git, SVN, AWS, Matlab, R, Tableau, PowerBI, SQL

PROFESSIONAL EXPERIENCE

**Consultant and Senior Data Scientist** *February 2019 – Current*

*BCG Gamma, The Boston Consulting Group, Singapore/Sydney*

- Gamma SEA lead for Industrial Goods, Operations and Augmented Analytics topics; responsible for simulation & optimization project delivery, and marketing BCG proprietary data science tools
- Discrete-event simulation (DES) of credit operations in India to optimize daily, weekly & monthly rosters and campaign plans
- Development of a scenario planning tool using BCG proprietary methodologies for Covid-19 testing to inform Asia-Pacific air transport recovery during early phases of global pandemic
- DES of beneficiation plant: identified co-commitments to deliver volume targets for a \$70m investment
- ML prediction of bulk carrier arrival time at load port: 5-15% precision increase over existing model
- Medium-term market price discovery for commodity market using mixed integer programming: potential \$90m profit increase
- Integrated sales and operations planning optimization for pulp and paper mills, palm oil refineries: identified up to 10% margin improvement

**Principal Consultant** *2012 – 2019*

*The Simulation Group, Brisbane/Perth, Australia*

- Simulation consulting projects regional team lead; responsible for project excellence, team management, recruiting & training, supporting business development activities
- Copper concentrator design verification: defined maintenance and 3rd-party logistics requirements to achieve production targets for multiple \$2b+ greenfield projects
- Volume risk assessment of iron ore and coal capital projects: identified more robust infrastructure and product strategies worth additional \$400m+ NPV
- Capital expansion planning and operational improvements across iron ore, coal, copper and aluminium mining and processing, as well as public rail networks and brick making facilities

**Project Officer**

2010 – 2012

*Airports of the Future Project, Queensland University of Technology, Brisbane, Australia*

- Managed collaboration of 30+ global research partners investigating the future of air travel
- Secured \$900k to establish Integrated Command & Control Facility for Large-Scale Critical Infrastructure Management
- Team awarded 2011 Engineers Australia QLD Division Engineering Excellence Award for R&D
- Published 3 peer-reviewed journal articles & 5 international conference papers, including research focus on airport passenger simulation using agent-based modelling

**EDUCATION****Doctor of Philosophy (Elec Eng)**

2006 – 2010

Queensland University of Technology, Brisbane, Australia

- Dissertation Title: *“Robust Speech Recognition using Speech Enhancement”*
- Principal Supervisor: Professor Sridha Sridharan
- Associate Supervisor: Dr Michael Mason
- Key Research Areas: Automotive Speech Recognition and Speech Enhancement

**Graduate Certificate in Research Commercialisation**

March 2008 – June 2008

Queensland University of Technology, Brisbane, Australia

**Master of Engineering Science (Computer & Communications)**

February 2005 – January 2006

Queensland University of Technology, Brisbane, Australia

**Bachelor of Engineering (Electrical & Computer) with First Class Honours** February 2002 – July 2005

Queensland University of Technology, Brisbane, Australia

*Awarded the QUT University Medal, 2006.***HOBBIES &  
COMMUNITY**

- parkrun volunteer, St Lucia (QLD) & Bishan (Singapore) parkruns, 2018 – 2020.
- Running
- Travel
- Photography

**PROFESSIONAL  
REFEREES**

Referees available on request