Dr Tristan Friedrich KLEINSCHMIDT

NATIONALITY: Australian

DATE OF BIRTH: 30th of December 1983

CONTACT INFORMATION:
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PROFESSIONAL PHILOSOPHY

- Problem solving: use the right tool for the business problem
- Communication: simplify complexity, make it actionable
- Enablement: user empowerment elevates value from data science insights and tools
- Team management: active communities brings out the best in people, accelerates innovation
- Sustainability: decisions made now must have sustainable impact for our planet

DATA SCIENCE SKILL SUMMARY

- Discrete-event simulation (DES): 12yrs experience delivering DES for capital and operational decisions, across mining & minerals, manufacturing, 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, Python (SimPy)
- Optimization: Python (PuLP, pyomo), AIMMS, Gurobi
- Machine Learning: Python, sci-kit learn
- General: Git, SVN, AWS, Matlab, R, Tableau, PowerBI, SQL, Docker

PROFESSIONAL EXPERIENCE

Consultant and Senior Data Scientist *February 2019 – Current*

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

- Gamma North America Simulation Co-Lead, responsible for building regional DES capability, project pipeline, and training and mentoring of junior simulation practitioners
- Responsible for simulation & optimization project delivery, marketing BCG proprietary data science capabilities and methodologies
- 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 *January 2012 – January 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 *January 2010 – January 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), & Danehy Park (Boston) parkruns, 2018 – 2022.
- Running
- Travel
- Photography

PROFESSIONAL REFEREES

Referees available on request