Tan Hong Ming

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Research Papers

Working Paper	**Smart City Investments under Dynamic Information Acquisition**, *Keppo, Jussi and Tan, Hong Ming and Zhou, Chao*, `https://ssrn.com/abstract=3141043`.
Published	**A modification to Pull the Goalie that takes into account the state of play: Coach Markov returns**, *Zaman, Zia and Tan, Hong Ming*, CHANCE, 33(1), 10-15.

Work Experience

2020–Present **Learning Facilitator**, *Emeritus Institute of Management*.
- Learning Facilitator at Emeritus for Business Analytics for Strategic Decisions Online Executive Course

2017–Present **PhD Candidate**, *Institute of Operations Research and Analytics*, National University of Singapore.
- Lead for Field Studies of Pilot training Project for a Major Airline Carrier
- Lead for Demand Modeling and Price Optimization Project for a Major Airline Carrier
- Lead for Forecasting Possible Quality Issues and Optimal Responses to the Forecasts for a Leading Global Medical Device Company
- Instructor for DSC5101 Analytics in Managerial Economics
- Instructor for Executive Education: Leading with Big Data Analytics and Machine Learning
- Teaching Assistant for DSC5101 Analytics in Managerial Economics
- Tutor for DAO1704/DSC1007 Decision Analytics Using Spreadsheets
- Outstanding Graduate Student Teaching Award

2015–2017 **Graduate Research Student**, *Department of Mathematics*, Faculty of Science, National University of Singapore.
- Completed Training Programme for Teaching Assistants
- Tutor for MA1505 Mathematics I
- Tutor for MA1101R Linear Algebra I
- Achieved top 20% of all graduate tutors in teaching performance

2013–2015 **Lecturer**, *Mathematics and Statistics Division*, Temasek Polytechnic.
- Collaborated with NUS Pharmaceutical Science to create interactive webpages using HTML5 elements and Javascript
- Co-authored three textbooks
- Coordinated Online Student Evaluation of Teaching Effectiveness system for the School of Applied Science
- Subject Leader for the subject "Statistics for Applied Science"
- Completed Teaching in Higher Education Certificate
- Completed Data Analytics in Healthcare course
- Completed WSQ 3D Printing for Rapid Product Development course

2009 **Administrative Assistant**, *Office of Undergraduate Programmes*, NUS Faculty of Engineering.
- Organizing Committee of Fourteenth National Undergraduate Research Opportunities Programme 2009
- Coordinated Industrial Attachment and Vacation Internship Programme
- Assisted with Student Exchange Programme

2008 **Defensive Computer Warfare/Information Assurance Platoon Commander**, *18C4 Unit*, Singapore Armed Forces, Lieutenant.
- Managed and oversee the integrity of SAF's computer and network security
- Coordinated the audit of Top Secret and Secret classified documents for all SAF Joint forces

Awards

2019 **National University of Singapore**, *Department of Analytics and Operations*, Outstanding Graduate Student Teaching Award.

2017 **National University of Singapore**, *Department of Mathematics*, Graduate Programme in Mathematics by Research, Letter of Commendation for Graduate Tutor.

2004 **Singapore Mathematical Olympiads**, *Senior Section*, Bronze Award.

Academic Qualifications

2017–Present **PhD Candidate**, *Institute of Operations Research and Analytics*, National University of Singapore.
- CAP 4.7/5

2015–2017 **Master of Science by Research**, *Department of Mathematics*, Faculty of Science, National University of Singapore.
- Graduate Programme in Mathematics by Research
- Thesis Title: Investment and the Quantity of Data Analytics

2009–2013 **Bachelor of Science(Hons)**, *National University of Singapore*, Second Class Honours, Upper Division.
- Applied Mathematics (Primary Major)
- Economics (Second Major)
- CAP 4.29/5

Master Thesis

Title *Investment and the Quantity of Data Analytics*

Supervisor Assistant Professor Zhou Chao

Abstract We study how the characteristics of investors and investment opportunities and the cost of data analytics affect investment decisions and the quantity of data analytics. We derive an explicit formula for the value and optimal quantity of data analytics for risk-adverse investors in a two period model. We show that lower data analytics costs raises leverage and increases the optimal quantity of data analytics, highly risk-averse investors use less data analytics and data analytics is used most with mediocre investment opportunities.

Honours Thesis

Title *Apollonian Circle Packings and Doyle's Spirals*

Supervisor Professor Tan Ser Peow

Abstract This thesis presents a basic introduction to Apollonian Circle Packings and Hexagonal Circle Packings, also known as Doyle's Spirals. It shows that there is a complex extension of Doyle's rule for generating Hexagonal Circle Packings analogous to the Complex Circle Theorem for Apollonian Circle Packings. By studying the extension, coherent and virtually coherent Doyle's Spirals can be found. 2 MATLAB® programs were created to draw Apollonian Circle Packings and Doyle's Spirals. These programs are executable and are able to run on any 64-bit computer independently from MATLAB®.