

Manoj Thulasidas

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Professional Interests

- Physics, mathematics and computer science education and pedagogy.
- Data analytics and automation techniques for SMEs, and knowledge-systems.
- Foundational topics in physics, role of perception and cognition in physics.
- Quantitative finance, management of information technology in the finance industry.

Education

- Syracuse University, Syracuse, NY, USA, Ph.D. in Physics (August 1993)
- Indian Institute of Technology (IIT), Madras, India, B.Tech. Electronics (July, 1987)

Skills

- Deep expertise and interest in physics and mathematics.
- Machine learning algorithms, and their application in the SME and corporate sectors.
- Quantitative finance and development skills in the finance industry.
- Software conceptualization, architecture, implementation, and polyglot in programming skills.
- Proven oral and written communication skills: Published writer, regular columnist, featured in TV news programs, newspapers, Webinars and magazine cover stories.

Career History

Singapore Management University, Singapore

Associate Professor of Information Systems (Education)

From Dec 2016

- Teaching data analytics and business modeling at the School of Information Systems.
- Research in the field of data analytics and management, and applications in health and wellness.

Briometry Pte Ltd, Singapore

Co-founder, Director

From Sep 2016

- Artificial intelligence and data science for corporate wellness.
- Innovative and disruptive technologies for the insurance industry and corporate management.
- Engaging apps for end-users.

Analytics SME, Singapore

Founder and Owner

From Mar 2016

- Brings cutting-edge data analytics and process automation tools to SMEs.
- Helps improve productivity, reduce manpower dependency, and achieve service excellence.
- Machine learning algorithms and software architecture, implementation.

Standard Chartered Bank, Singapore

Senior Quantitative Developer/Associate Director

Oct 2007 to July 2013

- Team lead for quantitative library development and pricing model integration.
- Software design and development on multiple operating systems, in multiple languages.
- Quantitative finance – stochastic calculus, simulation, multi-layer software design.
- Published Principles of Quantitative Development in the Wiley Finance series.

OCBC Bank, Singapore

Vice President, Market Risk Management

Oct 2005 to Sep 2007

- Head of Analytics for Market Risk Management – pricing model analysis and validation
- Ad-hoc quantitative tasks – credit risk and stock option price calculations.
- Applied mathematics – Stochastic calculus, partial differential equations and Monte Carlo simulations, implemented in C/C++ and Excel/VBA.
- Head of the Rates Management – market data sourcing, processing and management.

Institute for Infocomm Research (I²R), Singapore

*Associate Lead Scientist, A*STAR*

Aug 1998 to Sep 2005

- Team lead for the New Initiative research group. Expertise in bio-signal processing, sensors, actuators and embedded programming.
- Research and development on Brain-Computer Interface for locked-in patients.
- EEG-based system using data-mining algorithms. Won Samsung DigitAll Hope grant.
- Collaborated with Tokyo Institute of Psychiatry, Japan and Eberhard-Karls-University of Tübingen in BCI system using Near Infrared Spectroscopy.

CERN, Geneva, Switzerland and CPPM, Marseilles, France.

Research Engineer, CNRS, France

Sep 1993 to July 1998

- Research and development of the precision tracking Vertex Detector for CERN.
- Developed detailed simulation, alignment and analysis package for the detector at ALEPH.
- Measurement of b quark production fraction in Z^0 decays at ALEPH.

Professional Training

- Dec 2010. Derivatives and Risk Management by Orange Training and Consultancy.
- Sep 2008, Media Skills Training organized by Corporate Affairs, Standard Chartered Bank.
- Dec 2005, Practical Applications of Exotic Options in Asia by Kaplan.
- July 2006, Overview of Banking by The Financial Training Company, Kaplan.
- Dec 2006, The OCBC New Manager's Program by Forum.
- Mar 2005, Scientific Writing Skills by A*STAR, Institute for Infocomm Research.
- Nov 2003, London, UK. Neuroscan School by Advanced Medical Equipment Ltd.
- Mar 1996, Lyon, France. Relational Databases by L'École d'Informatique Générale Fraco-Tunisienne.

Honors and Awards

- Jun 2016. Invited talk on physics to the engineering science class at **Ngee Ann Polytechnic**.
- Dec 2014. Appeared in a TV interview **Singapore Choice** on the **AsiaNet** TV channel.
- Nov 2014 and Nov 2012. Invited lecture to the MFE Students at **NTU**.
- Sept 2011. Invited Webinar on Risk with Paul Wilmott by **FinCAD** and **Wiley Finance**.
- Jan 2008. TV coverage (**Channel 5** and **Channel News Asia**) on the sub-prime crisis.
- Jan 2008 London. Featured in the cover story of the **Wilmott Magazine**, commenting on the volatile year as a quantitative finance expert.
- Dec 2004. Brain-Computer Interface research results on **Channel News Asia**.
- Nov 2004. **Samsung DigitAll Hope award** (grant) and TV news coverage on **Channel i**.
- Sep 2004. Coverage in the **Straits Times** newspaper on Brain-Computer Interface.
- Sep 2004 Malta. **Best paper award** at MEDSIP'04, Malta.
- Nov 1995 CPPM, Marseilles, France. Chosen by the French National Center for Scientific Research (**CNRS**) following an open nation wide competition.
- Fall 1987 – '93 **Syracuse University**, USA. Graduate Assistantship and Tuition Scholarship.
- Summer 1983, India. Ranked **63rd** (out of about 75,000) in India in **JEE** for **IITs**.
- Summer 1982 Trivandrum, India. Ranked **3rd** in the state of **Kerala**, India in the Engineering Entrance Exam (out of about 10,000 students).

Selected Publications

- Two Books: (1) "*Principles of Quantitative Development*," John Wiley & Sons Ltd, Chichester, UK. (2) "*The Unreal Universe*," Asian Books, Singapore.
- M. Thulasidas, "Are Radio Sources and Gamma Ray Bursts Luminous Booms?" *IJMP-D*, Vol. 16, No. 6 (2007) pp. 983–1000 ("**Top Accessed Article**").
- M. Thulasidas et al., "Robust Classification of EEG Signal for Brain-Computer Interface," *IEEE Tran. Neural Systems and Rehab. Engineering* Vol. 14 (2006) pp. 24–29.
- M. Thulasidas et al., "Robust classification of event-related potential for brain-computer interface," *Proc. Intl. Conf. Adv. in MedSIP, Malta*, (2004) pp. 321–326 (**Best paper award**).
- Over 200 articles in peer-reviewed journals.
- About 50 articles in the **Wilmott Magazine** (London), the **Today** paper (Singapore).