**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 Digit*All* 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 Digit*All* 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 **IIT**s.
* 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, Chichestor, UK. (2) *“The Unreal Universe,”* Asian Books, Singapore.
* M. Thulasidas, “Are Radio Sources and Gamma Ray Bursts Luminal 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).