Paul Robert GRIFFIN

School of Computing and Information Systems
Singapore Management University (SMU)
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Education

PhD, Imperial College of Science, Technology & Medicine,University of London, Great Britain, 1997

Master of Science, Imperial College London,University of London, Great Britain, 1994

Bachelor of Science, Imperial College of Science, Technology & Medicine,University of London, Great Britain, 1984

Academic Appointments

Associate Professor of Information Systems (Practice), School of Computing and Information Systems, SMU, Jul 2016 - Present

Academic Administrative Positions

Director, Master of IT in Business (Financial Technology), School of Information Systems, SCIS PG by Course Work, SMU, Jul 2017 - Jun 2020

Assistant Director (Master of IT in Business (Financial Technology) Programmes), School of Information Systems, SCIS PG by Course Work, SMU, Jul 2016 - Jun 2017

Professional Memberships

Member, AStar, 2023

Member, British Standards Institute , 2023

Member, IMDA, 2023

Member, ISO, 2023

Member, Opennodes, 2023

Member, Singapore Computer Society and their blockchain Special Interest Group, 2023

Member, SSO, 2023

Member of the Blockchain & Distributed Ledger Technology Technical Committee and its Study Groups on TradeTrust platform, IMDA, 2023

Member of the Singapore Participating member , ISO TC 307 (Blockchain and Distributed Ledger Technology), 2023

Member of the Trusted Data Vault task force steering committee, AStar , 2023

Senior member , World Education Blockchain Association, 2023

RESEARCH

Research Interests

My primary research interest is in disruptive technology, in particular in the finance industry. The two technologies I focus on is blockchain, or distributed ledger technologies (DLT), and quantum computing. The use of blockchain and smart contracts is increasing amongst corporations and governments and will be at least as significant as VOIP was for telephony and likely to be as far reaching as web applications have become. Whilst first uses are being driven from the financial sector, any industry can also benefit from its use. Recently, quantum computing is emerging from being theoretical and quantum hardware is becoming increasingly larger, of higher quality and more accessible. The properties of quantum computing are uniquely different than conventional computing and the potential for disruption is huge in many areas especially for solving non-deterministic problems.
While there are many applications of quantum computing in many industries, I am particularly interested in the application of these technologies for the finance sector. My current work focusses on simulations in financial markets, optimization such as for trade settlement, quantum machine learning applications in credit rating and, also exploring quantum versions of DLT consensus. The work is mainly in collaboration with industry partners on externally funded projects.

Publications

Journal Articles [Refereed]

Exponential qubit reduction in optimization for financial transaction settlement, by HUBER, Elias X.; TAN, Benjamin Y. L.; GRIFFIN, Paul R.; ANGELAKIS, Dimitris G.. (2024). *EPJ Quantum Technology, 11* (1), 1-36. https://doi.org/10.1140/epjqt/s40507-024-00262-w (Published)

VIOLET: Visual Analytics for Explainable Quantum Neural Networks, by RUAN, Shaolun; LIANG, Zhiding; GUAN, Qiang; GRIFFIN, Paul; WEN, Xiaolin; LIN, Yanna; WANG, Yong. (2024). *IEEE Transactions on Visualization and Computer Graphics, 30* (6), 1-11. https://doi.org/10.1109/TVCG.2024.3388557 (Published)

Quantum machine learning for credit scoring, by SCHETAKIS, Nikolaos; AGHAMALYAN, Davit; BOGUSLAVSKY, Michael; REES, Agnieszka; RAKOTOMALALA, Marc; GRIFFIN, Paul Robert. (2024). *Mathematics, 12* (9), 1-12. https://doi.org/10.3390/math12091391 (Published)

QuantumEyes: Towards better interpretability of quantum circuits, by RUAN, Shaolun; GUAN, Qiang; GRIFFIN, Paul; MAO, Ying; WANG, Yong. (2023). *IEEE Transactions on Visualization and Computer Graphics, 30* (9), 6321-6333. https://doi.org/10.1109/TVCG.2023.3332999 (Published)

Review of some existing QML frameworks and novel hybrid classical-quantum neural networks realising binary classification for the noisy datasets, by Schetakis, N.; Aghamalyan, D.; Griffin, Paul; Boguslavsky, M.. (2022). *Scientific Reports, 12* (1), 1-12. https://doi.org/10.1038/s41598-022-14876-6 (Published)

Binary classifiers for noisy datasets: A comparative study of existing quantum machine learning frameworks and some new approaches, by SCHETAKIS, Nikolaos; AGHAMALYAN, Davit; GRIFFIN, Paul; BOGUSLAVSKY, Michael. (2021). *Scientific Reports,* 1-14. https://doi.org/10.21203/rs.3.rs-1440760/v1 (Published)

Can we classify cashless payment solution implementations at the country level?, by NG, Dennis; KAUFFMAN, Robert J.; GRIFFIN, Paul; HEDMAN, Jonas. (2021). *Electronic Commerce Research and Applications, 46* 1-22. https://doi.org/10.1016/j.elerap.2020.101018 (Published)

Smart contracts: Will Fintech be the catalyst for the next global financial crisis?, by DURAN, Randall; GRIFFIN Paul R.. (2021). *Journal of Financial Regulation and Compliance, 29* (1), 104-122. https://doi.org/10.1108/JFRC-09-2018-0122 (Published)

Automated theme search in ICO whitepapers, by FU, Chuanjie; KOH, Andrew; GRIFFIN, Paul. (2019). *Journal of Finance and Data Science, 1* (4), 140-158. https://doi.org/10.3905/jfds.2019.1.011 (Published)

The wider impact of a national cryptocurrency, by NG, Dennis; GRIFFIN, Paul. (2018). *Global Policy,* 1-18. (Published)

The application of quantum well solar cells to thermophotovoltaics, by GRIFFIN Paul R.; Ballard, I.; Barnham, K.; Nelson, J.; Zachariou, A.; Epler, J.; Hill, G.; Button, C.; Pate, M.. (1998). *Solar Energy Materials and Solar Cells, 50* (1-4), 213-219. http://dx.doi.org/10.1016/S0927-0248(97)00150-5 (Published)

Quantum well solar cells, by Barnham, K.; Ballard, I.; Barnes, J.; Connolly, J.; GRIFFIN, Paul R.; Kluftinger, B.; Nelson, J.; Tsui, E.; Zachariou, A.. (1997). *Applied Surface Science, 113* 722-733. (Published)

Study of misfit dislocations by EBIC, CL and HRTEM in GaAs/InGaAs lattice-strained multi-quantum well p-i-n solar cells, by Mazzer, M.; Grunbaum, E.; Barnham, K. W. J.; Barnes, J.; GRIFFIN, Paul R.; Holt, D. B.; Hutchison, J. L.; Norman, A. G.; David, J. P. R.; Roberts, J. S.; Grey, R.. (1996). *Materials Science and Engineering: B, 42* (1-3), 43-51. http://dx.doi.org/10.1016/S0921-5107(96)01681-9 (Published)

Effect of strain relaxation on forward bias dark currents in GaAs/InGaAs multiquantum well p-i-n diodes, by GRIFFIN, Paul R.; Barnes, J.; Barnham, K. W. J.; Haarpaintner, G.; Mazzer, M.; Zanotti-Fregonara, C.; Grunbaum, E.; Olson, C.; Rohr, C.; David, J. P. R.; Roberts, J. S.; Grey, R.; Pate, M. A.. (1996). *Journal of Applied Physics, 80* (10), 5815-5820. http://dx.doi.org/10.1063/1.363574 (Published)

Voltage enhancement in quantum well solar cells, by Barnham, K.; Connolly, J.; GRIFFIN, Paul R.; Haarpaintner, G.; Nelson, J.; Tsui, E.; Zachariou, A.; Osborne, J.; Button, C.; Hill, G.; Hopkinson, M.; Pate, M.; Roberts, J.; Foxon, T.. (1996). *Journal of Applied Physics, 80* (2), 1201-1206. http://dx.doi.org/10.1063/1.362857 (Published)

Book Chapters

Quantum technologies in decentralisation, by GRIFFIN, Paul; RAYMOND, Rudy; IDÉ, Tsuyoshi. (2025). In David Lee Kuo Chuen; Robert H. Deng (Ed.), *Handbook of blockchain, digital finance, and inclusion, volume 3* (pp. 35-49) ScienceDirect. (Published)

Quantum computing: Computational excellence for society 5.0, by GRIFFIN, Paul R.; BOGUSLAVSKY, Michael; HUANG, Junye; KAUFFMAN, Robert; TAN, Brian R.. (2022). *Data science and innovations for intelligent systems: Computational Excellence and Society 5.0* (pp. 1-) Boca Raton: CRC Press. (Published)

Quantum computing: Computational excellence for Society 5.0, by GRIFFIN, Paul R.; BOGUSLAVSKY, Michael; HUANG, Junye; KAUFFMAN, Robert J.; TAN, Brian R.. (2021). In K. Taneja, H.Taneja, K. Kumar, A. Selwal, & E. L.Ouh (Ed.), *Data science and innovations for intelligent systems: Computational excellence and Society 5.0* (pp. 1-32) Boca Raton: CRC Press. https://doi.org/10.1201/9781003132080-1 (Published)

A decision framework for decentralised control of distributed processes: Is blockchain the only solution?, by GRIFFIN, Paul; MEGARGEL, Alan; SHANKARARAMAN, Venky. (2019). In Shi, Nansi (Ed.), *Architectures and Frameworks for Developing and Applying Blockchain Technology* (pp. 1-27) IGI Global. (Published)

Conference Proceedings

QuLTSF: Long-term time series forecasting with quantum machine learning, by CHITTOOR, Hari Hara Suthan; GRIFFIN, Paul Robert; NEUFELD, Ariel; THOMPSON, Jayne; GU, Mile. (2025.0). *Proceedings of the 17th International Conference on Agents and Artificial Intelligence, ICAART 2025, Porto, Portugal, February 23-25,* (pp. 824-829) Portugal: Scitepress. https://doi.org/10.5220/0000196100003890 (Published)

A quantum photonic chip for binary classification, by Lin, H. X.; Zhang, H.; Cai, H.; Griffin Paul; Liu, A. Q.. (2023.0). *CLEO: Conference on Lasers and Electro-Optics: Applications and Technology 2023: San Jose, CA, 7-12 May: Proceedings,* Washington, DC: Optica. https://opg.optica.org/abstract.cfm?uri=cleo_at-2023-JW2A.64 (Published)

Quantum computing for supply chain finance, by GRIFFIN, Paul; SAMPAT, Ritesh. (2021.0). *2021 IEEE International Conference on Services Computing (SCC): Chicago, September 5-10: Proceedings,* (pp. 456-459) Los Alamitos, CA: IEEE Computer Society. https://doi.org/10.1109/SCC53864.2021.00066 (Published)

Quantum consensus, by SEET, Jorden; GRIFFIN, Paul. (2020.0). *2019 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE) 2019: December 9-11, Melbourne, Australia: Proceedings,* (pp. 1-8) Piscataway, NJ: IEEE. https://doi.org/10.1109/CSDE48274.2019.9162386 (Published)

Optimisation of InGaAsP quantum well cells for hybrid solar-thermophotovoltaic applications, by Rohr, C.; Connolly, J. P.; Barnham, K. W. J.; Balland, I.; GRIFFIN Paul R.; Nelson, J.; Button, C.; Clark, J.. (1999.0). *Thermophotovoltaic generation of electricity: Fourth NREL Conference: Denver, CO, 11-14 October 1998,* (pp. 83-92) Woodbury NY: AIP Press. http://worldcat.org/isbn/9781563968280 (Published)

Advantages of quantum well solar cells for TPV, by GRIFFIN, Paul R.; Ballard, I.; Barnham, K.; Nelson, J.; Zachariou, A.; Button, C.; Hopkinson, M.; Pate, M.. (1997.0). *Thermophotovoltaic generation of electricity: Third NREL Conference: Colorado Springs, CO, May 1997,* (pp. 411-422) Woodbury NY: AIP Press. http://worldcat.org/isbn/9781563967344 (Published)

A new approach to P-doping and the observation of efficiency enhancement in InP/InGaAs quantum well solar cells, by Zacnariou, A.; Barnham, K. W. J.; GRIFFIN, Paul R.; Nelson, J.; Button, C.; Hopkinson, M.; Pate, M.; Epler, J.. (1996.0). *Conference Record of the Twenty fifth IEEE Photovoltaic Specialists Conference, 1996: Washington DC, May 13-17, 1996,* (pp. 113-116) New York: IEEE. http://dx.doi.org/10.1109/PVSC.1996.563960 (Published)

Working Papers

A practical comparison of quantum and classical leaderless consensus, by GRIFFIN, Paul Robert; MEVADA, Dimple . (2022). (Published)

Picking flowers in an ICO garden, by TENG, Fam Guo; GRIFFIN Paul R.; KOH, Andrew. (2019). Emerald. (Published)

Other Outputs and Contributions

Audio / Video Materials

Quantum binary classifiers for noisy datasets [Audio/Video], by GRIFFIN, Paul; SCHETAKIS, Nikolaos; AGHAMALYAN, Davit. (2021, September 30). (Presented)

Research Grants

Singapore Management University

Quantum-Enhanced Modelling of Financial Time-Series Data for Rare Event Forecasting, QEP Call for Proposals, Quantum Engineering Programme (QEP) , Co-PI (Project Level): Paul Robert GRIFFIN, Rajesh Krishna BALAN, 2022, S$1,372,272

Resource efficient quantum algorithms and applications for chemistry, route optimization and finance, Quantum Engineering Programme (QEP), National Research Foundation (NRF) , Co-PI (Project Level): Paul Robert GRIFFIN, 2022, S$1,106,400

Exploring the advantage of a quantum system for machine learning applied to credit scoring, MAS Financial Sector Development Fund - Artificial Intelligence & Data Analytics Grant (Research Track), Monetary Authority of Singapore (MAS) , PI (Project Level): Paul Robert GRIFFIN, 2020, S$1,476,900

Distributed Ledger Research, OneConnect Financial Technology (Singapore) Co. Pte. Ltd. , PI (Project Level): Paul Robert GRIFFIN, 2019, S$99,996

Advancing Quantum-Enhanced Finance: Hybrid Optimization Using Non-Universal Quantum Computers,

SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Paul Robert GRIFFIN, 2025, S$150,000

Other Institutions

Quantum Rare Events Modelling, MDGF, MOE Decentralised Gap Funding , PI (Programme Level): Paul Robert GRIFFIN, PI (Project Level): Paul Robert GRIFFIN, Catalin Burlacu, 2024, SGD20,500

Personalized projects and labs for Enterprise Solutions Management using AI Builder, TEL Exploratory research grant, SMU Centre for Teaching excellence PI (Project Level): Kiruthika RAMANATHAN, Co-PI (Project Level): Rafael J. BARROS, 2023, SGD6,000

Exploring the advantage of a quantum system for machine learning applied to credit scoring, Financial Sector Technology & Innovation (FSTI) Scheme for Artificial Intelligence & Data Analytics Grant, Monetary Authority of Singapore PI (Project Level): Paul Robert GRIFFIN, SGD1,600,000

Quantum Blockchain, Industry funded by OneConnect – “Quantum Blockchain”, OneConnect PI (Project Level): Paul Robert GRIFFIN, SGD99,996

Quantum-Enhanced Modelling of Financial Time-Series Data for Rare Event Forecasting, National Research Foundation Quantum Engineering Programme , National Research Foundation Co-PI (Project Level): Paul Robert GRIFFIN, SGD1,203,000

Resource efficient quantum algorithms for chemistry, National Research Foundation Quantum Engineering Programme , National Research Foundation Co-PI (Project Level): Paul Robert GRIFFIN, SGD900,000

Advancing Quantum-Enhanced Finance: Hybrid Optimization Using Non-Universal Quantum Computers, Ministry of Education (MOE) Tier 1, Ministry of Education (MOE) PI (Project Level): Paul Robert GRIFFIN, SGD150,000

Quantum Computing for Fraud Detection, Oversea-Chinese Banking Corporation Limited, Oversea-Chinese Banking Corporation Limited PI (Project Level): Paul Robert GRIFFIN, SGD150,000

TEACHING

Courses Taught

Singapore Management University

Undergraduate Programmes :

- Blockchain Applications in Financial Services
- Enterprise Solution Management
- Quantum Computing in Financial Services

Postgraduate Professional Programmes :

- Blockchain Technology
- Corporate Banking and Blockchain
- FinTech Essentials
- Project
- Quantum Computing in Financial Services

Postgraduate Research Programmes :

Empirical Research Project 3

Empirical Research Project I

Non-Graduating Programmes :

Blockchain Applications in Asia-Pacific's Financial Services

Quantum Computing in Financial Services

Non-SMU Programmes :

DBS - SMU STAR Case Workshop Series 2022 - Web 3.0 (Defi and the Metaverse), Non-Graduating, SMU

Final year IS Application Projects, Undergraduate, Singapore Management University

Final year research projects, Undergraduate, Singapore Management University

Interaction Design and Prototyping, Undergraduate, Singapore Management University

Quantum Computing and its Applications, Non-Graduating, SMU

Software Engineering, Undergraduate, Singapore Management University

Summer course on blockchain, Undergraduate, Singapore Management University

Executive Development :

Quantum Computing and its Applications, 01 Jan 2020-Present

Financial Game Changing Series, 18 Sep 2018-18 Sep 2018

Digital Strategy to Enhance Client Satisfaction & Profitability, 04 Sep 2018-04 Sep 2018

Blockchain and Smart Contracts, SMU SIS Undergraduate enrichment, 20 Jun 2018-20 Jun 2018

UOB Leadership Academy Level 3, Module 1: Value-Driven Strategic Leadership in a Uncertain Future, UOB, 17 May 2018-17 May 2018

Teaching Publications

Cases

Eastspring digitisation case, by GRIFFIN, Paul. (Accepted)

THESES AND DISSERTATIONS

Theses and Dissertations Assessed

Other Institutions

Other, "SAS Viya FinTech Projects ", Thesis by NA, SMU MITB, 2023

OTHER ACADEMIC AND PROFESSIONAL ACTIVITIES

Presentation and Talks

Presentations

Quantum Leaderless Consensus, (01 Oct 2021). *Institute of Physics Singapore IPS21,* Singapore.

Quantum Computing for Supply Chain Finance, (07 Sep 2021). *IEEE Future of Finance 2021,* Internet.

Future of Payments, (07 May 2018). *Singapore-India Business Dialogue,* India. India

Invited Seminars, Talks and Lectures

Demystifying Quantum Computing and opportunities for the Fintech industry, 02 Nov 2022. Singapore Fintech Festival

Exploring the application of quantum computing in finance, 04 Oct 2022. Keio University quantum computing, Tokyo, Japan

Quantum Leaderless Consensus, 24 Mar 2021. Blockchain Association Singapore

The Value of Quantum Computing in Finance, 26 Nov 2020. Banking on Quantum

Quantum Computing in Finance, 19 Nov 2020. Quantum Engineering Program 2.0

Quantum computing in Finance, 23 Jun 2020. TFD Initiative - evolution of credit scoring using quantum computing”

Future of Wealth Management, 16 Nov 2017. Future of Wealth Management, SMU

Consultancy

Singapore's National Quantum Computing Hub, Aug 2024 - Present

AngelQ, Oct 2023 - Present

KRenergy Partners, Jul 2018 - Present

Monetary Authority of Singapore, Aug 2017 - Present

Media Contributions and Citations

Work Talk Podcast - Next job disruptor, quantum? , The Straits Times, 04 Mar 2024 https://www.straitstimes.com/business/next-job-disruptor-quantum

Interview with Thomson Reuters linking an article on the attractiveness of Singapore to innovators to the SMU Master of IT in Business, Thomson Reuters, 01 Jan 2023

Comments on Blockchain in Smart Cities , South China Morning Post , 01 Jan 2023

Quantum Computing: A powerful tool for potentially enhancing machine learning , SMU City Perspectives, 17 Aug 2022

Quantum Machine Learning Binary Classifiers , TechInnovation 2021, Event, 28 Sep 2021

Reaching a leaderless consensus in distributed ledgers with quantum computing, research.smu.edu.sg/news, 23 May 2021 https://research.smu.edu.sg/news/2021/may/23/reaching-leaderless-consensus-distributed-ledgers-quantum-computing

OneConnect Financial Technology and Singapore Management University announce key findings from joint research on potential for quantum computing to resolve blockchain trilemma, news.smu.edu.sg/news/, 07 Apr 2021 https://news.smu.edu.sg/news/2021/04/07/oneconnect-financial-technology-and-singapore-management-university-announce-key

A potential quantum leap for blockchain applications, Business Times, 20 Nov 2019 https://www.businesstimes.com.sg/potential-quantum-leap-blockchain-applications

Quantum Blockchain, SMU Thought Leadership Series in Business Times , 01 Nov 2019

Entering the Quantum World, SMU Engage, 01 Nov 2019 https://engage.smu.edu.sg/entering-quantum-world

Quantum Blockchain, Business Times, 01 Nov 2019

Bitcoin price surged to 8- month high., Channel 8 News, 22 May 2019

Opinion on cashless payments in Japan, Sankei Shimbun, 01 May 2019

SMU and present Perspectives 2019 - Episode 4 panellist, Channel NewsAsia, 06 Mar 2019

“Money Mind: Investing in Cryptocurrencies”, ChannelNews Asia, 16 Sep 2018 https://mediacast.smu.edu.sg/media/Cryptocurrencies,+Channel+NewsAsia,+(Money+Mind,++10.30pm),+15+Sept+20182018/0_zv6fdil5/44087142

“Should a Robot Run Your Investment Portfolio?”, •SMU blog, 09 Sep 2018 http://blog.smu.edu.sg/academic/schools/smusis/should-robot-run-your-investment-portfolio/

Review quote is on the book cover, The Basics of Bitcoins and Blockchains, Book, 01 Sep 2018

MITB Thought Leadership booklet: “March of the Silent Bots” and “Decentralise Me”, MITB Thought Leadership booklet, Booklet, 01 Sep 2018

Blockchain & Tokenomics, Cambridge University Press , 01 Sep 2018

Money Mind: Ep 10: The Winning Formula, Channel News Asia, 11 Jun 2018 https://www.channelnewsasia.com/news/video-on-demand/moneymind/the-winning-formula-10421146

World Cup (Money Mind, 10.30pm), ChannelNews Asia, 09 Jun 2018 https://mediacast.smu.edu.sg/media/World+Cup%2C+ChannelNews+Asia%2C+%28Money+Mind%2C+10.30pm%29%2C++9+June+2018/0_3exsrglb/44087142

Preparing the Next Generation of FinTech Innovators – Exclusive Interview with Paul Griffin, Singapore Management University (SMU), MEDICI, 01 Mar 2018 https://gomedici.com/exclusive-interview-paul-griffin-singapore-management-university/

Contracts Can be Smart, Podcast, 14 Nov 2017 https://soundcloud.com/sgsmu/contracts-can-be-smart

Comment in “Singapore Cryptocurrency Firms Facing Bank Account Closures”, Business Times, 26 Sep 2017

March of the Silent Bots, SMU Blog, 20 Jul 2017

Bold Ambition: Singapore’s Quest to Become a Global Fintech Hub, fintechnews.sg and SMU blog, 03 Apr 2017 http://blog.smu.edu.sg/masters/mitb/bold-ambition-singapores-quest-global-fintech-hub/

MITB Fintech Intro, MITB newsletter , Newsletter, 01 Jan 2017

Setting the scene for FinTech within general financial technology, MITB-US FinTech Seminar, Seminar Presentation, 15 Nov 2016

“Turnkey Lender wants to make lending easier for SE Asia’s non-bank lenders”, The Edge, 20 Oct 2016 https://www.theedgesingapore.com/article/turnkey-lender-wants-make-lending-easier-se-asiaâs-non-bank-lenders

Devops and cloud digital transformation, SMU Financial IT Academy , 20 Jul 2016

UNIVERSITY SERVICE

Singapore Management University

Committee Member, EngD Dissertation, Sep 2024 - Present

Committee Member, PhD Dissertation, Jun 2024 - Present

Committee Member, PhD Dissertation, May 2024 - Present

Committee Member, EngD Dissertation, May 2024 - Present

Committee Member, RECSEC, Jan 2024 - Present

Presenter of the FTA track , Singapore FinTech Festival, Nov 2023

Participant, Singapore-India Business Dialogue, Nov 2023 - Present

Established MOUs with these companies, Nutanix, OneConnect, Nearex, Kratos, Optimai, OCBC, WeBank, Jan 2023 - Present

Faculty Advisor, Sim Kee Boon Institute for Financial Economics on e-Ariary Central Bank Digital Currency project for BFM (Madagascar), Jan 2023 - Present

Marketing Helper - Ideas, info sessions and content for publicity , SCIS, Jan 2023 - Present

Reviewer of faculty performance and interviewer of new potential faculty, SCIS, Jan 2023 - Present

Interviewer of potential students and those at risk of failure, SCIS, Jan 2023 - Present

Course Collaboration with these companies, Delta Capita, Atticus, Grab, JPMC, Jan 2023 - Present

Organiser, US-MITB FinTech Seminar , Jan 2023 - Present

Other, Revamped the FTA track for latest fintech, Jan 2023 - Present

Collaborator with the business, accountancy and law schools for FinTech related courses, SCIS, Jan 2023 - Present

Conductor of MAS - DAG roundtable for MITB, SCIS, Jan 2023 - Present

Inviter of guest speakers for the FinTech club and courses: R3 and Consensys, Eximchain, Kratos, WeBank , Other, Jan 2023 - Present

Faculty Advisor, Student blockchain and FinTech clubs, Jan 2023 - Present

Other, 5.FinTech - SMU-SOSS Forum: Singapore, Green Finance and the Collaborative Challenge , Jan 2023 - Present

Other, Alliance of “Like-Minded Universities” , Jan 2023 - Present

Committee Chair, Co-chair for quantum finance workshop, Jan 2023

Moderator, SMU-SAG Digital Wealth Management Night , Jan 2023 - Present

Manager of instructor staff, the lab technology and budget, SCIS, Jan 2023 - Present

Academic Director of the financial technology and analytics (FTA) track on the Masters of IT in Business (MITB) programme, SCIS, Jan 2018 - Dec 2021

Other Institutions

Presenter on the Webinar “TFD Initiative - evolution of credit scoring using quantum computing, ITFA Fintech Committee, International Trade and Forfaiting Association, Jan 2023 - Present

EXTERNAL SERVICE – PROFESSIONAL

Trusted Data vault task force meeting / workshop , AStar, 2023 - Present

Other, Netherlands Business Round Tables event , 2023 - Present

Other, BNP Paribas International Hackathon, BNP Paribas , 2023 - Present

Hackathon judge and gamification project for students, BNP Paribas , 2023 - Present

Chairperson, Quantum Finance, Quantum Finance Workshop, 2023

Presenter Keynote Address, Blockchain and the Evolution of Digital Currency: APAC Edition, 2023 - Present

Presenter on blockchain for insolvency and debt restructuring, IPAS, 2023 - Present

Panelist, 6th Asia Insurance CIO Technology Summit, 2023 - Present

Presenter on Smart Contracts , Capgemini Applied Innovation Exchange event, 2023 - Present

Reviewer Ad Hoc Reviewer, JSRECE, ICIS and UIIDS, 2023 - Present

Other, Industry mentor program, Institute of Banking & Finance (IBF) , 2023 - Present

Presenter on blockchain for the procurement industry, CIPS Singapore Branch , 2023 - Present

Presenter on the evolution of blockchain including quantum blockchain, Goldman Sachs , 2023 - Present

Presenter Keynote Address, Cryptosg meetup group, 2023 - Present

Involvement in discussions for outreach, George Mason University, OCBC, PayPal, TRPC, Temenos, US Embassy, Eastspring, Attores, MAS, Tech Excite, NTT Data, 2023 - Present

Collaboration with Citi bank for a FinTech interest group, Citi Bank, 2023 - Present

Review of blockchain course and possible use of Hashgraph blockchain and Invited to host a PoA node, Hedera , 2023 - Present

Presenter of technical offerings on Quantum machine learning and Quantum blockchain, Techinnovation 2020 , 2023 - Present

Panelist on “Disrupting the future” , Bank of America Merrill Lynch , 2023 - Present

Other, Tri-Sector Collaboration programme on FinTech regulations, 2023 - Present

Host of visit, City of Toronto Leader and Queen's University MBA team, 2023 - Present

Panel moderator, Questexasia - EICXO forum, 2023 - Present

Host for breakfast seminar , UBS Data Group, 2023 - Present

Advisor, Start-ups: BCoin, CandidI, SunElectric, GreenBit, FlowLabs and Krenergy Partners, 2023 - Present

Moderator, Digital Transformation for Insurance “Enabling Intelligent Customer Engagement and Interactions”, 2023 - Present

Advisor on blockchain for logistics, DHL, 2023 - Present

Invited to Libra Singapore Community, AlphaxLab, 2023 - Present

Guest Speaker, EnterpriseSG, 2023 - Present

Invited to host a PoA node, Katlyn , 2023 - Present

Moderator for “Banking on Quantum: The Value of Quantum Computing in Finance", SGInnovate seminar, 2023 - Present

Moderator, FITA DevOps industry fireside discussion , 2023 - Present

Assistant Director, Eastspring Investments, 2012 - 2016

Project Manager, Infinet , 2011 - 2012

Project Manager, HSBC, 2010 - 2011

Consultant, Independent, 2009 - 2010

Japan Head of IT – Vice President, NikkoCitigroup , 2004 - 2009

Asia Pacific Head of IT – Vice President, JPMorganChase & Co., 2000 - 2004

Project Manager / Technical Consultant , Pygmalion Group, 1999 - 2000

Post- doctorate researcher, Cavendish Laboratory, Cambridge University, 1997 - 1998

Msc & PhD Researcher, Imperial College, 1993 - 1997

Product Developer, VG Microtech, 1987 - 1993

Engineer, Wright Instruments , 1985 - 1987

Research Assistant, Cavendish Laboratory, 1985 - 1987

Technician, Davies, Lang and Dick, 1984 - 1985

EXTERNAL SERVICE – PUBLIC SECTOR AND COMMUNITY SERVICE

Advisor, Economic Development Board of Singapore (EDB), 2023 - Present

Workshop Organizer, Ngee Ann Poly, 2023 - Present

Project Evaluator, MAS PoC funding scheme, 2023 - Present

Commenter on blockchain standards , BSI, SSSO, ISO and IMDA, 2023 - Present

Advisor for a blockchain solution for certification integrity, Singapore College of Insurance , 2023 - Present

Presenter on quantum computing in finance, Quantum Engineering Programme workshop, 2023 - Present

Advisor to the Deputy Secretary, Mr Tan Kok Yam, Smart Nation and Digital Government Office (SNDGO), 2023 - Present

Advisor of Singapore’s FinTech ecosystem and the opportunities and challenges for FinTech and blockchain technology in Singapore, International Monetary Fund (IMF) , 2023 - Present

Developed questions, Singapore’s Recognition of Prior Learning for API and Blockchain, 2023 - Present

Reviewer and informal advisor to MAS and workstreams for smart contract implementation for liquidity saving mechanisms, MAS, 2023 - Present

Talk with Mr Chan Chun Sing, Minister for Trade & Industry, SGInnovate , 2023 - Present

Presenter on Blockchain Basics, SkillsFuture, 2023 - Present

Presenter on quantum computing in finance, NTU and NUS/CQT , 2023 - Present

Program Organizer, MAS ITAP and MAS Tech Talk , 2018

Guest Speaker, READ! Fest 2018, Nation Library Board, 2018