Alan MEGARGEL

School of Computing and Information Systems
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Education

Doctor of Innovation, Singapore Management University, Singapore, 2018

MSc, University of Sheffield, Great Britain, 1996

Academic Appointments

Associate Professor of Information Systems (Practice), School of Computing and Information Systems, SMU, Jan 2023 - Present

Assistant Professor of Information Systems (Practice), School of Computing and Information Systems, SMU, Jul 2019 - Dec 2022

Senior Lecturer of Information Systems, School of Computing and Information Systems, SMU, Jan 2012 - Jun 2019

Academic Administrative Positions

Supervisor to SIS UG Instructors, School of Computing and Information Systems, SMU, Jul 2019 - Jun 2020

Coordinator, BSc (IS) Financial Technology Track, School of Computing and Information Systems, SMU, Jul 2018 - Present

Project Head, T-bank and Special Projects, School of Computing and Information Systems, SMU, Jan 2012 - Jun 2020

Awards and Honors

AIS Award for Best Conference Paper in IS Education, ICIS, 2020

LKCSB Deans Teaching Honour List Top Faculty Members, SMU, 2020

Best Paper of Conference, AIS SIG-ED, 2019

Teaching Excellence in Post Graduate Professional Programmes., School of Information System, Singapore Management University, 2016

Professional Memberships

Regular Member, AIS SIG-ED, 2019

Regular Member, IEEE, 2019

RESEARCH

Research Interests

1. Enterprise Architecture in Banking
2. Service Oriented Architecture
3. Business Process Management
4. Massive-scale in-memory data grid technology
5. SMU Teaching Bank - A platform that provides an on-going supply of undergrad and postgrad student projects whereby classroom learning outcomes can be put into practice, leveraging industry leading banking software and enterprise platforms.

Publications

Journal Articles [Refereed]

The future of cryptocurrency and blockchain technology in finance, by WONG, Wanyi; MEGARGEL, Alan. (2023). *Journal of Digital Banking, 8* (1), 65-76. (Published)

Human-centred artificial intelligence in the banking sector, by OBUCHETTIAR, Arul; MEGARGEL, Alan. (2023). *Journal of Digital Banking, 7* (3), 266-279. (Published)

Understanding human-centred artificial intelligence in the banking sector, by OBUCHETTIAR KRISHNARAJ, Arul; MEGARGEL, Alan
. (2023). *Journal of AI, Robotics and Workplace Automation, 2* (4), 332-348. (Published)

Strategic business models under open banking: A guideline for incumbent banks, by NGUYEN, Hung; MEGARGEL, Alan. (2022). *Journal of Digital Banking, 6* (4), 366-380. (Published)

Digital Banking Accelerator: A Service-Oriented Architecture Starter Kit for Banks, by MEGARGEL, Alan; SHANKARARAMAN, Venky. (2021). *IEEE Software, 38* (3), 106-112. https://doi.org/10.1109/MS.2020.3029876 (Published)

Empowering Singapore's SME: FinTech P2P lending – A lifeline for SME's survival?, by LEE, Grace; MEGARGEL, Alan. (2021). *Journal of Digital Banking, 5* (4), 365-377. (Published)

SOA maturity influence on digital banking transformation, by MEGARGEL, Alan; SHANKARARAMAN, Venky; FAN, Terence P. C.. (2018). *Journal of banking and financial technology, 2* (2), 1-27. (Published)

Book Chapters

AI for financial services: An Asian perspective, by MEGARGEL, Alan; SHANKARARAMAN, Venky. (2022). *Will AI dictate our future?* Singapore: Marshall Cavendish. (Published)

Migrating from monoliths to cloud-based microservices: A banking industry example, by MEGARGEL, Alan; SHANKARARAMAN, Venky; WALKER, David K.. (2020). In M. Ramachandran, & Z. Mahmood (Ed.), *Software engineering in the era of cloud computing* (pp. 85-108) Cham: Springer. https://doi.org/10.1007/978-3-030-33624-0_4 (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)

Real-Time Inbound Marketing: A Use Case for Digital Banking, by MEGARGEL, Alan; SHANKARARAMAN Venky; REDDY, Srinivas K.. (2018). In David Lee & Robert H. Deng (Ed.), *Handbook of blockchain, digital finance, and inclusion: Cryptocurrency, FinTech, InsurTech, and regulation* (pp. 311-328) San Diego, CA:

Academic Press. https://doi.org/10.1016/B978-0-12-810441-5.00013-0 (Published)

Enterprise integration: Architectural approaches, by SHANKARARAMAN, Venky; MEGARGEL, Alan. (2013). In Raja Ramanathan and Kirtana Raja (Ed.), *Service-driven approaches to architecture and enterprise integration* (pp. 67-84) Hersey, PA: Information Science Reference. https://doi.org/10.4018/978-1-4666-4193-8.ch003 (Published)

<u>Conference Proceedings</u>

Microservices Orchestration vs. Choreography: A decision framework, by MEGARGEL, Alan; POSKITT, Christopher M.; SHANKARARAMAN, Venky. (2021.0). *Proceedings of the 25th IEEE International Enterprise Distributed Object Computing Conference (EDOC 2021), Gold Coast, Australia, October 25-29,* (pp. 134-141) New York: IEEE. (Published)

SMU Teaching Bank: Case study of a multiyear development project utilizing student resources, by MEGARGEL, Alan; FAN, Terence P. C.; SHANKARARAMAN, Venky. (2019.0). *Proceedings of AIS Special Interest Group for Education (SIGED), Munich, 2019 December 14-15,* (pp. 1-15) Munich, Germany: AIS. (Published)

Tutorial: SMU Teaching Bank: Enhancing classroom learning for digital banking and IT architecture related courses, by MEGARGEL, Alan. (2018.0). *Proceedings of the 2018 AIS Special Interest Group for Education (SIGED): San Francisco, December 12-13,* (pp. 1-30) San Francisco: AIS. https://aisel.aisnet.org/siged2018/2/ (Published)

Applying design thinking to student outreach projects: Experiences from an Information Systems School, by GOTTIPATI, Swapna; SHANKARARAMAN, Venky; MEGARGEL, Alan. (2018.0). *Proceedings of AIS Special Interest Group for Education (SIGED), San Francisco, CA, 2018 December 12-13,* (pp. 1-11) San Francisco: AIS. (Published)

Mini-case study pedagogy: Experience from a technical course in an information systems program, by SHANKARARAMAN, Venky; GOTTIPATI, Swapna; MEGARGEL, Alan. (2018.0). *In Proceedings of 48th Annual Frontiers in Education Conference (FIE), San jose, United States, 2018 October 3-6,* San jose: IEEE. (Published)

Theses and Dissertations

Digital banking: Overcoming barriers to entry (Doctoral dissertation), by MEGARGEL, Alan. (2018). Singapore: Singapore Management University. (Published)

Other Outputs and Contributions

<u>Others</u>

Marketing method, by PEZZANITI, Domenico; MEGARGEL, Alan. (2005). In (Published)

Papers Submitted for Review

<u>Journal Articles [Refereed]</u>

Performance Evaluation of NewSQL Databases in a Distributed Architecture, by MEGARGEL, Alan; JIANG Lingxiao. (2024). *IEEE Access,* (Submitted)

Low/No-Code and Traditional Code Integration in Digital Banking, by YEO, K.S.; MEGARGEL, Alan. (2024). *Journal of Digital Banking,* (Submitted)

On Generation of Talking Points for Client Advisors at Banks to Promote Sustainable Investing, by VARAKANTHAM, Pradeep; MEGARGEL, Alan. (2024). *IEEE Access,* (Submitted)

Book Chapters

Application of Blockchain and Internet of Things in ESG Data Platforms, by NGUYEN, H.L.H.; MEGARGEL, Alan. (2024). *Handbook of Blockchain, Digital Finance, and Inclusion - Second Edition* Elsevier. (Submitted)

Using Vector Embeddings To Model Macroeconomic Regimes, by PARIKH, Nirav Janak; MEGARGEL, Alan. (2024). *Handbook of Blockchain, Digital Finance, and Inclusion - Second Edition* Elsevier. (Submitted)

Transforming Global Economies: The Profound Impact on Digitalization, by RAMAKRISHNAN, Ramaprasad; MEGARGEL, Alan. (2024). *Handbook of Blockchain, Digital Finance, and Inclusion - Second Edition* Elsevier. (Submitted)

Transformation of Digital Banking Back-office Operations Using AI, by MEGARGEL, Alan; SHANKARARAMAN, Venky; OBUCHETTIAR, Arul. (2024). *Handbook of Blockchain, Digital Finance, and Inclusion - Second Edition* Elsevier. (Submitted)

Research Grants

Singapore Management University

Autonomous Onboarding and Periodic KYC review (PKR), AI Singapore 100 Experiments, AI Singapore , PI (Project Level): Alan MEGARGEL , Co-PI (Project Level): Pradeep Reddy VARAKANTHAM, 2020, S$625,607.6

Autonomous Prospecting and Product Recommendations, AI Singapore 100 Experiments, AI Singapore , PI (Project Level): Alan MEGARGEL , Co-PI (Project Level): Pradeep Reddy VARAKANTHAM, 2020, S$625,607.6

Other Institutions

Autonomous Onboarding and Periodic KYC Review (PKR), AI Singapore 100 Experiments Programme, AI Singapore PI (Project Level): Alan MEGARGEL, Co-PI (Project Level): Pradeep Reddy VARAKANTHAM, 2020, SGD325,000

Autonomous Prospecting and Product Recommendations, AI Singapore 100 Experiments Programme, AI Singapore PI (Project Level): Alan MEGARGEL, Co-PI (Project Level): Pradeep Reddy VARAKANTHAM, 2020, SGD325,000

IIE(MDGF) - "Digibank" Microservices-based CORELESS Digital Banking System, MDGF, MOE Decentralised Gap Funding PI (Project Level): Alan MEGARGEL, 2020, SGD250,000

IIE(SMART) - Microservices-based Digital Banking Platform, SMART, Singapore-MIT Alliance for Research and Technology PI (Project Level): Alan MEGARGEL, 2020, SGD250,000

TEACHING

Teaching Areas

Postgrad Courses Taught (MITB-Financial Services):
o ISFS612 Digital Banking Enterprise Architecture
o ISFS603 Corporate & Institutional Banking
o ISFS606 Lifecycle Implementation of Banking Products

Undergrad Courses Taught (BSc-Information Systems):
o IS301 Enterprise Integration
o IS303 Architectural Analysis
o IS480 IS Application Project
o IS470 Guided Research in Information Systems
o IS203 Software Engineering
o Track Coordinator for our Financial Technology Career Track

Courses Taught

<u>Singapore Management University</u>

Undergraduate Programmes :

    Corporate Banking Technology

    Digital Banking Enterprise Architecture

    Digital Payments and Innovation

    Enterprise Integration

    Enterprise Solution Development

    IS Application Project

Postgraduate Professional Programmes :

    Capstone Project - Software and Cyber-Physical Systems

    Digital Banking Enterprise Architecture

    Digital Payments and Innovations

    Digital Payments & Innovations

    FinTech Essentials

    Project

Postgraduate Research Programmes :

    Dissertation

    Empirical Research Project I

    Empirical Research Project II

    Introductory Research Project

Teaching Publications

Cases

LGB Bank: Composite microservices in a large global bank (A), by MEGARGEL, Alan; POSKITT, Christopher M.. (2021). SMU-21-0037A. https://cmp.smu.edu.sg/case/5176 (Published)

LGB Bank: Composite microservices in a large global bank (B), by MEGARGEL, Alan; POSKITT, Christopher M.. (2021). SMU-21-0037B. https://cmp.smu.edu.sg/case/5176 (Published)

LGB Bank: Composite microservices in a large global bank (C), by MEGARGEL, Alan; POSKITT, Christopher M.. (2021). SMU-21-0037C. https://cmp.smu.edu.sg/case/5176 (Published)

LGB Bank: Composite microservices in a large global bank (D), by MEGARGEL, Alan; POSKITT, Christopher M.. (2021). SMU-21-0037D. https://cmp.smu.edu.sg/case/5176 (Published)

LGB Bank: Application integration in a large global bank, by MEGARGEL, Alan; SHANKARARAMAN, Venky. (2017). SMU-16-0045. https://www.thecasecentre.org/educators/products/view?id=143585 (Published)

Teaching Notes

LGB Bank: Composite microservices in a large global bank, by MEGARGEL, Alan; POSKITT, Christopher M.. (2021). SMU-21-0037TN. https://cmp.smu.edu.sg/case/5176 (Published)

LGB Bank: Application integration in a large global bank, by MEGARGEL, Alan; SHANKARARAMAN, Venky. (2017). SMU-16-0045TN. https://www.thecasecentre.org/educators/products/view?id=143586 (Published)

OTHER ACADEMIC AND PROFESSIONAL ACTIVITIES

Other Grants and Funding Received (Non-Research)

SMU Institute of Innovation & Entrepreneurship ("IIE") Internal Innovation Grant, SMU-IIE, Apr 2020 - Oct 2021, S$250,000

SMART Innovation Centre's Innovation Grant, SMART, Mar 2020 - Mar 2021, S$250,000