Curriculum Vitae

Vincent S. Tseng   Ph.D.
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Bio Sketch

Vincent S. Tseng is currently a Chair Professor at Department of Computer Science in National Yang Ming Chiao Tung University (NYCU). He served as the founding director for Institute of Data Science and Engineering in NCTU during 2017-2020, chair for IEEE CIS Tainan Chapter during 2013-2015 and the president of Taiwanese Association for Artificial Intelligence during 2011-2012. He also acted as the director for Institute of Medical Informatics of National Cheng Kung University during 2008 and 2011. Dr. Tseng received his Ph.D. degree with major in computer science from National Chiao Tung University, Taiwan, in 1997. After that, he joined Computer Science Division of EECS Department in University of California at Berkeley as a postdoctoral research fellow during 1998-1999. He has a wide variety of research interests covering artificial intelligence, big data mining, machine learning, biomedical informatics, mobile and Web technologies, etc. He has published more than 400 research papers in referred journals and conferences as well as 15 patents (held and filed). By Google Scholar, his publications have been cited by more than 17,000 times with H-Index 71. He has been on the editorial board of a number of top journals including *IEEE Transactions on Knowledge and Data Engineering*, *IEEE Journal of Biomedical and Health Informatics*, *ACM Transactions on Knowledge Discovery from Data, Knowledge Discovery and Data Mining*, etc. He has also served as chairs/program committee members for a number of premier international conferences related to data mining and intelligent computing, including *KDD, ICDM, SDM, PAKDD, ICDE, CIKM, IJCAI*, etc. In recent years, he has also been serving to oversee the architect on Big Data/AI technologies and applications for the governmental and industrial units in Taiwan. Dr. Tseng has received numerous prestigious honors/awards, including *World Top 2% Scientist (since 2022), PAKDD Distinguished Service Contribution Award (2024), Pan Wen Yuan Foundation Outstanding Research Award* (2023), *IICM Medal of Honor (2021), Outstanding Research Award (2019 & 2015) by Ministry of Science and Technology Taiwan, 2019 ACM Distinguished Scientist Member (for Outstanding Scientific Contributions to Computing), FutureTech Award (2023, 2022 & 2018), 2018 Outstanding I.T. Elite Award, and 2014 K. T. Li Breakthrough Award. He is also a Fellow of IEEE and Distinguished Member of ACM.*

In terms of the technical achievements, Dr. Tseng has advanced the area of big data mining/machine learning and interdisciplinary applications substantially at both algorithmic and system levels, with solving broad classes of challenging problems and enabling emerging applications. He has made significant contributions to the data mining and intelligent computing community in advancing the area of utility patterns mining and biomedical informatics analytics by not only creating new research lines but also innovating valuable applications. Dr. Tseng has applied the developed data mining/machine learning techniques extensively to interdisciplinary applications, especially in the field of smart medicine. Over more than 20 years, he has led his research team to conduct many important and pioneering research/industrial projects. The developed techniques, including artificial intelligence, big data analytics, machine learning and text mining, have been integrated for early detection/prediction of various kinds of diseases from heterogeneous biomedical data sources like medical images, vital signs, medical notes and genomes. These techniques

and platforms have been extensively applied in practical healthcare domains through collaborations with various medical centers/institution in Taiwan, resulting many pioneering publications and practical applications in biomedical and healthcare domains. The representative work include the risk detection/prediction techniques for Diabetic Retinopathy (collaborated with Industrial Technology Research Institute), which delivered AUC higher than 98% (the highest in the world in this area). The resulted and extended technologies /systems have won a number of prestigious awards, including the *National Innovation Award (2020-2023), ITRI Yearly Paper Award (2020), 2022 R&D100 Award (https://www.rdworldonline.com/2022-rd-100-award-winners/) and 2022 Edison Awards (https://edisonawards.com/winners2022.php)*.

Education Background

1997	National Chiao Tung University, Taiwan	Ph. D. in Computer and Information Engineering
1990	National Chiao Tung University, Taiwan	M.S. in Computer and Information Engineering
1988	National Chiao Tung University, Taiwan	B.S. in Computer and Information Engineering

Employment and Related Experiences

- 2020 – Now   Chair Professor, Department of Computer Science, National Yang Ming Chiao Tung University
- 2019 – Now   Adjunct Chair Professor, Department of Information Management, National Chung Hsin University
- 2023 – Now   Deputy Director, Digital Medicine and Smart Healthcare Research Center, NYCU, Taiwan
- 2016 – Now   Director, Center for Big Data Technologies and Innovations, NYCU, Taiwan
- 2017 – 2020   Founding Director, Institute of Data Science and Engineering, National Chiao Tung University
- 2015 – 2020   Distinguished Professor, Department of Computer Science, National Chiao Tung University, Taiwan
- 2011 – 2014   Distinguished Professor, Department of Computer Science and Information Engineering, National Cheng Kung University Taiwan
- 2008 – 2011   Director, Institute of Medical Informatics, NCKU Taiwan
- 2007 – 2011   Professor, Department of Computer Science and Information Engineering, National Cheng Kung University, Taiwan
- 2004 – 2007   Director, Department of Medical Informatics, NCKU Hospital Taiwan
- 2003 – 2007   Associate Professor, Department of Computer Science and Information Engineering, NCKU Taiwan
- 1999 – 2003   Assistant Professor, Department of Computer Science and Information Engineering, NCKU Taiwan
- 1998 – 1999   Postdoctoral Researcher, EECS Dept, University of California at Berkeley, USA

Research Specialty

- Artificial Intelligence/Machine Learning
- Data Mining/Big Data Techniques and Applications
- Biomedical and Health Informatics
- Mobile and Web Techniques
- Social Network Analysis and Applications

Publications

- Has published more than 400 papers in referred journal and conferences, as well as 15 patents (held and filed), with more than 17,000 citations (H-Index:71) by Google Scholar.
  - Detailed publication list: http://people.cs.nycu.edu.tw/~vtseng

Honorary and Awards

- 2024   Y.Z. Hsu Scientific Paper Award (AI Category)
- 2024   PAKDD Distinguished Service Contribution Award
- 2023   Pan Wen Yuan Foundation Outstanding Research Award
- 2022   Future Tech Award
- 2021   IICM Medal of Honor

- 2021   IEEE Fellow
- 2021   World Top 2% Scientist (for both Annual & Lifetime Contributions)
- 2020   World Top 2% Scientist (for both Annual & Lifetime Contributions)
- 2020   Best Paper Award, 2020 Int'l Conference on Pervasive AI - Fintech and Business Intelligence Track
- 2020   Best Paper Award, Int'l Computer Symposium, Workshop on Big Dat
- 2020   Supervision Award for Best Master Thesis, Institute of Information and Computing Machinery, Taiwan
- 2019   Outstanding Research Award by Ministry of Science and Technology Taiwan
- 2019   ACM Distinguished Member
- 2018   Future Tech Breakthrough Award by Ministry of Science and Technology Taiwan
- 2018   Outstanding I.T. Elite Award, Taiwan
- 2018   Best Application Paper Award, Int'l Conf. SCIS-ISIS
- 2015   Outstanding Research Award by Ministry of Science and Technology Taiwan
- 2014   K. T. Lee Breakthrough Award
- 2014   Distinguished Electrical Engineering Professorship Award, Chinese Institute of Electrical Engineering
- 2014   Best Paper Award, 10th Int'l Conference on Advanced Data Mining and Applications (ADMA 2014)
- 2014   Supervision Award for Best PhD Thesis, Taiwanese Association for Artificial Intelligence
- 2014   Supervision Award for Best PhD Thesis, Institute of Information and Computing Machinery, Taiwan
- 2014   Second Prize, ET Big Data Contest
- 2013   Supervision Award for Best Master Thesis, Institute of Information and Computing Machinery, Taiwan
- 2012   Second Prize, Nokia Mobile Data Challenge
- 2012   Best Paper Award, 2012 Int'l Conf. Technologies and Applications for Artificial Intelligence
- 2012   Supervision Award for Best PhD Thesis, Institute of Information and Computing Machinery, Taiwan
- 2012   Supervision Award for Best PhD Thesis, Taiwanese Association for Artificial Intelligence
- 2011   Supervision Award for Best Master Thesis, Institute of Information and Computing Machinery, Taiwan
- 2011   Microsoft Research Award
- 2011   Merit Paper Award, 2011 Int'l Conf. Technologies and Applications for Artificial Intelligence
- 2010   Supervision Award for Best Master Thesis, Institute of Information and Computing Machinery, Taiwan
- 2010   Best Paper Award, ACM Int'l Conf. on GIS-LBSN
- 2009   Best Paper Award, National Symposium on Security
- 2008   Supervision Award for Best PhD Thesis, Taiwanese Association for Artificial Intelligence
- 2006   Supervision Award for Best PhD Thesis, Taiwanese Association for Artificial Intelligence

Professional Activities
- 2013 – Now   Director, Big Data Technology Platform Program, Ministry of Science and Technology, Taiwan
- 2011 – Now   Technical Committee Member, Ministry of Science and Technology, Taiwan
- 2011 – Now   Technical Committee Member, Ministry of Science and Technology, Ministry of Health and welfare, Ministry of Economic Affairs, Taiwan
- 2014 – Now   Technical Committee Member, Taiwan Cloud Computing Association
- 2020 – 2023   Vice Chair, Steering Committee, Pacific-Asia Knowledge Discovery and Data Mining (PAKDD)
- 2019 – 2020   Vice Chair, Steering Committee, Pacific-Asia Knowledge Discovery and Data Mining (PAKDD)
- 2013 – 2015   Chair, IEEE CIS(Computational Intelligence Society) Tainan Chapter
- 2013 – 2016   IEEE Data Mining Technical Committee Member
- 2011 – 2012   President, Taiwanese Association for Artificial Intelligence
- 2011 – 2012 Vice Chair, IEEE CIS Chapter in Tainan Section
- 2012 – Now   Board Member, Taiwanese Association for Medical Informatics
- 2010 – Now   Board Member, IEEE Tainan Section
- 2009 – 2010   Board Member, HL-7 Taiwan Society
- 2007 – 2008   Board member, Taiwan Society on Bioinformatics

Editorial Board
- 2023 – Now   Associate Editor, IEEE Transactions on Intelligent Systems and Technology
- 2023 – Now   Associate Editor, IEEE Computational Intelligence Magazine
- 2018 – Now   Associate Editor, Journal of Healthcare Informatics Research

- 2016 – Now   Associate Editor, Knowledge and Information Systems (KAIS)
- 2014 – Now   Associate Editor, IEEE Journal of Biomedical and Health Informatics
- 2011 – Now   Associate Editor, Journal of Information Science and Engineering
- 2021 – 2021   Associate Editor, IEEE Computational Intelligence Magazine
- 2019 – 2023   Associate Editor, International Journal of Environmental Research and Public Health
- 2016 – 2019   Associate Editor, Data Mining and Knowledge Discovery
- 2012 – 2020   Associate Editor, ACM Transactions on Knowledge Discovery from Data
- 2012 – 2017   Associate Editor, IEEE Transactions on Knowledge and Data Engineering
- 2012 – 2016   Associate Editor-in-Chief, Taiwanese Journal of Medical Informatics
- 2006 – 2020   Associate Editor, Int'l Journal of Data Mining and Bioinformatics

Organizing Committee of Conferences (Selected in recent five years)
Steering/Advisory Committee
- Steering Committee Chair, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD)(2020-2023)
- Steering Committee and Vice Chair, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD)
- Steering Committee, IEEE Int'l Conference on Data Science and Advanced Analytics (DSAA)
- Steering Committee, Int'l Conf. Intelligence Science and Big Data Engineering (IScIDE)
- Advisory Committee, 2014 Int'l Conf. on Technologies and Applications for Artificial Intelligence (TAAI'14)
- Advisory Committee, 2014 Int'l Conf. Japanese Society for Artificial Intelligence (JSAI'14)
- Advisory Committee, 2013 Int'l Conf. on Technologies and Applications for Artificial Intelligence (TAAI'13)
- Advisory Committee, 2012 Int'l Conf. on Innovations in Bio-Inspired Computing and Applications

Program Committee/Conference Chair (Selected)
- 2024   General Chair, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'24)
- 2024   Area Chair, 29th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'24)
- 2023   Senior Program Committee, 29th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'23)
- 2023   Senior Program Committee, 32th ACM Int'l Conf. on Information and Knowledge Management (CIKM'23)
- 2023   Senior Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'23)
- 2022   Senior Program Committee, 31th ACM Int'l Conf. on Information and Knowledge Management (CIKM'22)
- 2022   Senior Program Committee, 28th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'22)
- 2022   Senior Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'22)
- 2021   Program Chair, 26th IEEE Int'l Conference on Database Systems for Advanced Applications (DASFAA'21)
- 2021   Senior Program Committee, 27th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'21)
- 2021   Senior Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'21)
- 2021   Area Chair, 19th IEEE International Conference on Data Mining (ICDM'21)
- 2020   General Chair, 1st Int'l Conference on Pervasive Artificial Intelligence (ICPAI'20)
- 2020   Program Chair, 7th IEEE Int'l Conference on Data Science and Advanced Analytics (DSAA'20)
- 2020   Area Chair, 20th IEEE International Conference on Data Mining (ICDM'20)
- 2020   Senior Program Committee, 26th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'20)
- 2020   Senior Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'20)
- 2019   Area Chair, 19th IEEE International Conference on Data Mining (ICDM'19)
- 2019   Senior Program Committee, 25th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'19)
- 2019   Senior Program Committee, 28th ACM Int'l Conf. on Information and Knowledge Management (CIKM'19)
- 2019   Senior Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'19)
- 2018   Program Co-Chair, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'18)
- 2018   Area Chair, 18th IEEE International Conference on Data Mining (ICDM'18)
- 2018   Program Committee, 24th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'18)
- 2017   Area Chair, 17th IEEE International Conference on Data Mining (ICDM'17)
- 2017   Senior Program Committee, 23th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'17)
- 2017   Senior Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'17)
- 2016   Area Chair, 16th IEEE International Conference on Data Mining (ICDM'16)
- 2016   Senior Program Committee, 22th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'16)
- 2016   Program Chair, IEEE International Conference on Big Data Intelligence and Computing (DataCom'16)
- 2016   Senior Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'16)
- 2015   General Chair, 2015 ASE Int'l Conference on Big Data

- 2015   Area Chair, 15th IEEE International Conference on Data Mining (ICDM'15)
- 2015   Program Committee, 20th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'14)
- 2015   Senior Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'15)
- 2014   Program Chair, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'14)
- 2014   Area Chair, 14th IEEE International Conference on Data Mining (ICDM'14)
- 2014   Senior Program Committee, IEEE Int'l Conf. on Big Data
- 2014   Program Committee, 20th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'14)
- 2014   Program Committee, IEEE Int'l Conf. on Bioinformatics and Biomedicine (BIBM'14)
- 2014   Program Committee, IEEE Int'l Conf. on Mobile Data Management (MDM'14)
- 2014   Program Committee, Int'l Conf. on Database Systems for Advanced Applications (DASFAA'14)
- 2013   Program Co-Chair, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'13)
- 2013   General Co-Chair, AI Forum
- 2013   Senior Program Committee, Int'l Conf. Information and Knowledge and Management (CIKM'13)
- 2013   Senior Program Committee, Int'l Joint Conf. on Artificial Intelligence (IJCAI'13)
- 2013   Program Committee, 19th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'13)
- 2013   Program Committee, 13th IEEE International Conference on Data Mining (ICDM'13)
- 2013   Program Committee, IEEE Int'l Conf. on Bioinformatics and Biomedicine (BIBM'13)
- 2013   Program Committee, IEEE Int'l Conf. on Mobile Data Management (MDM'13)
- 2013   Program Committee, Int'l Conf. on Database Systems for Advanced Applications (DASFAA'13)
- 2013   Program Committee, IEEE Int'l Conf. on Granular Computing (Grc'13)
- 2012   General Chair, Int'l Conf. on Technologies and Applications for Artificial Intelligence (TAAI'12)
- 2012   General Chair, AI Forum
- 2012   Program Committee, 18th ACM SIGKDD Int'l Conf. on Knowledge Discovery and Data Mining (KDD'12)
- 2012   Program Committee, 12th IEEE International Conference on Data Mining (ICDM'12)
- 2012   Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'12)
- 2012   Program Committee, IEEE Int'l Conf. on Bioinformatics and Biomedicine (BIBM'12)
- 2012   Program Committee, IEEE Int'l Conf. on Granular Computing (Grc'12)
- 2012   Program Committee, IEEE Int'l Conf. on Mobile Data Management (MDM'12)
- 2012   Publicity Chair, IEEE Int'l Conference on Fuzzy Systems (FUZZ-IEEE'13)
- 2012   Program Committee, Int'l Conf. on Database Systems for Advanced Applications (DASFAA'12)
- 2011   General Chair, Int'l Conf. on Technologies and Applications for Artificial Intelligence (TAAI'11)
- 2011   General Chair, AI Forum
- 2011   Program Committee, 11th IEEE International Conference on Data Mining (ICDM'11)
- 2011   Program Committee, IEEE Int'l Conf. on Bioinformatics and Biomedicine (BIBM'11)
- 2011   Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'11)
- 2011   Program Committee, IEEE Int'l Conf. on Mobile Data Management (MDM'11)
- 2011   Chair, IEEE BIBM'11 Int'l Workshop on Data Mining for Biomarker Discovery
- 2011   Program Committee, IEEE Int'l Conf. on Granular Computing (Grc'11)
- 2010   Chair, Int'l Workshop on Biomedical Informatics
- 2010   Program Committee, IEEE Int'l Conf. on Bioinformatics and Biomedicine (BIBM'10)
- 2010   Program Committee, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'10)
- 2010   Chair, IEEE BIBM'10 Int'l Workshop on Data Mining for Biomarker Discovery
- 2010   Program Committee, IEEE Int'l Conf. on Granular Computing (Grc'10)
- 2010   Program Committee, 23rd IEEE Int'l Conf. Computer-Based Medical Systems (CBMS)
- 2010   Program Committee, IEEE Int'l Conf. on Mobile Data Management (MDM'10)
- 2009   Track Chair, I-SPAN'09 Track on Biomedical Informatics
- 2009   Tutorial Chair, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD'09)
- 2009   Chair, IEEE BIBM'09 Int'l Workshop on Data Mining for Biomarker Discovery
- 2009   Program Committee, SIAM Int'l Conf. on Data Mining (SDM'09)
- 2009   Program Committee, 22nd IEEE Int'l Conf. Computer-Based Medical Systems (CBMS)

Keynote Speeches and Invited Talks

- Keynote Speech, AAAI-AI4TS Workshop, Vancouver, Canada, 2024
- Keynote Speech, ICDM-AI4TS Workshop, Shanghai, China, 2023
- Keynote Speech, 11th International Conference on Model and Data Engineering (MEDI), Egypt, 2022

- 34th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE), Malaysia, 2021
- Keynote Speech, 34th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE), Malaysia, 2021
- Keynote Speech, 15th International Conference on Advanced Data Mining and Applications, Dalian, China, 2019
- Invited Speech, Asian Workshop on Smart Sensor System, Munahata, Japan, 2019
- Invited Speech, ACM SIGKDD China Chapter Session, London, UK, 2018
- Keynote Speech, Asian Conference on Machine Learning, Hamilton, New Zealand, 2016
- Invited Speech, Microsoft Research Asia Faculty Summit, Seoul, Korea, 2016
- Keynote Speech, ACM SIGKDD Workshop-BigMine'15, Sydney, Australia, 2015
- Keynote Speech, Multidisciplinary International Social Networks Conference, Taiwan, 2014
- Invited Speech, CIE-DFW 25th Anniversary Convention, Dallas, USA, 2014
- Keynote Speech, International Conference on Advanced Information Technologies, Taiwan, 2013
- Invited Speech, Int'l Conf. Intelligence Science and Big Data Engineering, 2013
- Keynote Speech, Annual Conf. on Artificial Intelligence, Nanjing, China, 2012
- Keynote Speech, The E-Learning and Information Technology Symposium, Taiwan, 2012
- Keynote Speech, Pacific-Asia Conf. Knowledge Discovery and Data Mining (PAKDD), Int'l Workshop on Data Mining for Healthcare Management, Malaysia, 2012.
- Keynote Speech, The E-Learning and Information Technology Symposium (EITS), Taiwan, 2012
- Invited Speech, IEEE Int'l Conf. on Mobile Data Management (MDM'11), Sweden, June, 2011.
- Invited Speech, Microsoft Research Summit, Shanghai, October, 2010.
- Invited Speech, European Union FP7 BISON Annual Meeting, Germany, May, 2010.
- Invited Speech, 7th Annual Emerging Information Technology Conference, Princeton, USA, July, 2007.

Project Experiences
- Has conducted more than 100 research projects (PI & Co-PI) funded by Ministry of Science and Technology Taiwan (National Science Council previously) and various governmental/industrial units.