BINH P. NGUYEN

Senior Lecturer in Data Science

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APPOINTMENTS

Senior Lecturer (equivalent to Associate Professor in the US)
School of Mathematics and Statistics, Victoria University of Wellington (VUW)
📅 Aug 2018 – Ongoing ● Wellington, New Zealand

Scientist II
Institute of High Performance Computing, Agency for Science, Technology and Research (A*STAR)
📅 Feb 2017 – Jul 2018 ● Singapore

Research Fellow
Duke-NUS Medical School, National University of Singapore (NUS)
📅 Jul 2015 – Jan 2017 ● Singapore

Research Associate & Research Fellow
Department of Mechanical Engineering, NUS
📅 Sep 2011 – July 2015 ● Singapore

Research Scholar
Department of Electrical & Computer Engineering, NUS
📅 Jul 2007 – Aug 2011 ● Singapore

Lecturer
Hanoi University of Science and Technology
📅 Nov 2002 – Jun 2007 ● Hanoi, Vietnam

EDUCATION

Ph.D. in Electrical & Computer Engineering
National University of Singapore
📅 2007 – 2012

M.Sc. in Information Processing & Communications
Hanoi University of Science and Technology
📅 2002 – 2004

B.Eng. (Hons.) in Information Technology
Hanoi University of Science and Technology
📅 1997 – 2002

RESEARCH INTERESTS

Data science | Deep learning | Health informatics
Bioinformatics | *In silico* drug discovery

GRANTS

Science for Technological Innovation (SfTI) Seed Project, 2019–2021
De novo drug discovery for type 2 diabetes mellitus treatment using deep-learned generative models, PI, **NZ$200,000**, Callaghan Innovation, New Zealand.

MBIE (3) and HRC (1), 2019–2026
Key Researcher on 4 other projects funded by NZ Government with a total amount of more than **NZ$18 million**.

University Research Fund, 2019
Phenotypic drug discovery using deep learning, Sole PI, **NZ$33,630**, VUW.

School Research Grant, 2018–2019
Sole PI, **NZ$10,000**, VUW.

GPU Grants
02 TITAN Xp (2017 & 2018) and 01 TITAN V (2019), NVIDIA Corporation.

HONORS AND AWARDS

Best Student Paper Award
International Conference on Artificial Intelligence and Computational Intelligence (AICI 2020)

Top 1% of Reviewers in CS & Cross-Field
on Publons global reviewer database, 2018 & 2019

Best Student Paper Award
IEEE International Conference on Systems, Man, and Cybernetics (SMC 2016)

Poster Prize
BioImage Informatics Conference 2016

Junior Research Gold Award
Singapore National Neuroscience Institute, 2015

Best Poster Award (Grand Prize)
GPU Technology Workshop South East Asia, 2014

PROFESSIONAL ACTIVITIES

Associate/Academic/Topic Editor
Re:GEN Open (since 2021)
PeerJ; PeerJ Computer Science (since 2021)
PLOS One (since 2021)
Atmosphere; Life (since 2020)

Editorial Board Member
Computers in Biology and Medicine (2018-2020)

Program Committee Member
for more than **80** international conferences

Reviewer
for more than **40** international journals

PUBLICATIONS

🎓 More details: [Google Scholar] [Research Gate]

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📄 Selected Journal Articles

(* denotes corresponding author)

- E. Leow, **B. P. Nguyen***, and M. Chua, "Robo-advisor using genetic algorithm and bert sentiments from tweets for hybrid portfolio optimisation," *Expert Systems With Applications*, vol. 179, no. 1, p. 115 060, 2021, [IF: 6.954]. DOI: `10.1016/j.eswa.2021.115060`.

- J. F. Mbinta, **B. P. Nguyen**, P. M. A. Awuni, P. E. Eme, and C. R. Simpson, "Post-licensure herpes zoster vaccines effectiveness: Systematic review protocol," *BMJ Open*, vol. 11, no. 2, e040964, 2021. DOI: `10.1136/bmjopen-2020-040964`.

- Q. H. Nguyen, **B. P. Nguyen***, T. B. Nguyen, T. T. T. Do, J. F. Mbinta, and C. R. Simpson, "Stacking segment-based cnn with svm for recognition of atrial fibrillation from single-lead ecg recordings," *Biomedical Signal Processing and Control*, vol. 68, p. 102 672, 2021, [IF: 3.880]. DOI: `10.1016/j.bspc.2021.102672`.

- K. Gupta, I. C. Ng, G. M. Balachander, **B. P. Nguyen**, *et al.*, "Bile canaliculi contract autonomously by releasing calcium into hepatocytes via mechanosensitive calcium channel," *Biomaterials*, vol. 259, p. 120 283, 2020, [IF: 12.479]. DOI: `10.1016/j.biomaterials.2020.120283`.

- S. Hussain, A. Anees, A. Das, **B. P. Nguyen**, *et al.*, "High-content image generation for drug discovery using generative adversarial networks," *Neural Networks*, vol. 132, pp. 353–363, 2020, [IF: 8.050]. DOI: `10.1016/j.neunet.2020.09.007`.

- T. K. Le, V. Truong, T.-H. Nguyen-Vo, **B. P. Nguyen**, *et al.*, "Application of machine learning in screening of congenital heart diseases using fetal echocardiography," *Journal of the American College of Cardiology*, vol. 75, no. 11 Supplement 1, p. 648, 2020, [IF: 24.094]. DOI: `10.1016/S0735-1097(20)31275-4`.

- T.-H. Nguyen-Vo, L. Nguyen, N. Do, *et al.*, "Predicting drug-induced liver injury compounds using convolutional neural network and molecular fingerprint-embedded features," *ACS Omega*, 2020, [IF: 3.512]. DOI: `10.1021/acsomega.0c03866`.

- N.-Q.-K. Le, Q. H. Nguyen, X. Chen, S. Rahardja*, and **B. P. Nguyen***, "Classification of adaptor proteins using recurrent neural networks and PSSM profiles," *BMC Genomics*, vol. 20, no. Suppl 9, pp. 1–9, 2019, [IF: 3.969]. DOI: `10.1186/s12864-019-6335-4`.

- N.-Q.-K. Le and **B. P. Nguyen***, "Prediction of FMN binding sites in electron transport chains based on 2-D CNN and PSSM profiles," *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 2019, [early access] [IF: 3.710]. DOI: `10.1109/TCBB.2019.2932416`.

- Q. H. Nguyen, T.-H. Nguyen-Vo, N.-Q.-K. Le, T. T. T. Do, S. Rahardja*, and **B. P. Nguyen***, "iEnhancer-ECNN: Identifying enhancers and their strength using ensemble of convolutional neural networks," *BMC Genomics*, vol. 20, no. Suppl 9, pp. 1–10, 2019, [IF: 3.969]. DOI: `10.1186/s12864-019-6336-3`.

- T.-H. Nguyen-Vo, Q. H. Nguyen, T. T. T. Do, T.-N. Nguyen, S. Rahardja*, and **B. P. Nguyen***, "iPseU-NCP: Identifying RNA pseudouridine sites using random forest and NCP-encoded features," *BMC Genomics*, vol. 20, no. Suppl 10, pp. 1–11, 2019, [IF: 3.969]. DOI: `10.1186/s12864-019-6357-y`.

- **B. P. Nguyen***, Q. H. Nguyen, G.-N. Doan-Ngoc, T.-H. Nguyen-Vo, and S. Rahardja*, "iProDNA-CapsNet: Identifying protein-DNA binding residues using capsule neural networks," *BMC Bioinformatics*, vol. 20, no. Suppl 23, pp. 1–12, 2019, [IF: 3.169]. DOI: `10.1186/s12859-019-3295-2`.

- **B. P. Nguyen***, H. N. Pham, H. Tran, *et al.*, "Predicting the onset of type 2 diabetes using wide and deep learning with electronic health records," *Computer Methods and Programs in Biomedicine*, vol. 182, p. 105 055, 2019, [IF: 5.428]. DOI: `10.1016/j.cmpb.2019.105055`.

- L. Cai, **B. P. Nguyen**, C.-K. Chui, and S.-H. Ong, "A two-level clustering approach for multidimensional transfer function specification in volume visualization," *The Visual Computer*, vol. 33, no. 2, pp. 163–177, 2017. DOI: `10.1007/s00371-015-1167-y`.

- X. Chen, **B. P. Nguyen**, C.-K. Chui, and S.-H. Ong, "Reworking multilabel brain tumor segmentation – an automated framework using structured kernel sparse representation," *IEEE Systems, Man, and Cybernetics Magazine*, vol. 3, no. 2, pp. 18–22, 2017, [invited paper]. DOI: `10.1109/MSMC.2017.2664158`.

- **B. P. Nguyen**, H. Heemskerk, P. T. C. So, and L. Tucker-Kellogg, "Superpixel-based segmentation of muscle fibers in multi-channel microscopy," *BMC Systems Biology*, vol. 10, no. Suppl 5:124, pp. 39–50, 2016. DOI: `10.1186/s12918-016-0372-`

- **B. P. Nguyen***, W.-L. Tay, and C.-K. Chui, "Robust biometric recognition from palm depth images for gloved hands," *IEEE Transactions on Human-Machine Systems*, vol. 45, no. 6, pp. 799–804, 2015, [IF: 3.374]. DOI: `10.1109/THMS.2015.2453203`.

- R. Wen, W.-L. Tay, **B. P. Nguyen***, *et al.*, "Hand gesture guided robot-assisted surgery based on a direct augmented reality interface," *Computer Methods and Programs in Biomedicine*, vol. 116, no. 2, pp. 68–80, 2014, [IF: 5.428]. DOI: `10.1016/j.cmpb.2013.12.018`.