NAM D. NGUYEN

Machine Learning Researcher · Software Engineer

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EXPERIENCE

Research Fellow

Daifeng Wang Laboratory, University of Wisconsin-Madison

Sep 2019 – Present USA

- Researched multi-view learning & its application to brain disorder
- Developed Varmole, ECMarker; authored related papers; presented at ISMB 2020 & RSG 2020, resulting in favorable feedback and recommendation for inclusion in the next phase of the project

Research Assistant

SBU-BNL SEED Grants *"Large-Scale Comparative Regulatory Network Analysis in Photosynthetic Organisms"*

Daifeng Wang Laboratory, Stony Brook University

May 2017 – Aug 2019 USA

- Collaborated with Brookhaven National Lab. to collect & analyze RNA-Seq data of *Chlamydomonas reinhardtii*
- Researched manifold alignment & its application to multi-view learning
- Developed ManiNetCluster; authored a related paper; presented at ACM-BCB 2018, RSGDREAM 2018 & ICIBM 2019, resulting in favorable feedback and recommendation for inclusion in the next phase of the project
- Solved the trade-off between parametric and nonlinear manifold alignment by designing a deep architecture; implemented in PyTorch

Other Projects

- Led a team in 2 prediction competitions, Zillow Prize & Online Dating Matchmaking (top 22%)
- Led the project "Automated Singing Evaluation" to train the machine to distinguish between good & poor singing

Researcher

Software Engineering Lab., Pohang University of Science & Technology

Mar 2011 – May 2013 S.Korea

SELECTED PUBLICATIONS

(*co-first-author)

[1] • Ting Jin, Nam D Nguyen*, Flaminia Talos, and Daifeng Wang. "ECMarker: Interpretable machine learning model identifies gene expression biomarkers predicting clinical outcomes and reveals molecular mechanisms of human disease in early stages". In: *Bioinformatics* (Nov. 2020). btaa935. ISSN: 1367-4803.

[2] • Nam D Nguyen, Ian K Blaby, and Daifeng Wang. "ManiNetCluster: a novel manifold learning approach to reveal the functional links between gene networks". In: *BMC genomics* 20.12 (2019), pp. 1–14.

[3] • Nam D Nguyen, Ting Jin, and Daifeng Wang. "Varmole: A biologically drop-connect deep neural network model for prioritizing disease risk variants and genes". In: *Bioinformatics* (Oct. 2020). btaa866. ISSN: 1367-4803.

[4] • Nam D Nguyen and Daifeng Wang. "Multiview learning for understanding functional multiomics". In: *PLOS Computational Biology* 16.4 (2020), e1007677.

HONORS & AWARDS

NSF Travel Award
ICIBM 2019, USA

Best Poster *"A Manifold Learning Approach to Reveal Functional Linkage Across Gene Networks"*
ACM-BCB 2018, USA

VEF Doctoral Fellowship
The US National Academy of Sciences 2016, USA

Research Scholarship
National Research Foundation of Korea 2011, S.Korea

SKILLS & LANGUAGES

Python · PyTorch · R · MATLAB · Bash · AWK · Vim · Git · Java · UML · OOAD · Design Patterns

RESEARCH INTERESTS

Machine Learning · Network Science · Computational Biology · Optimization

EDUCATION

PhD Candidate in Computer Science

Stony Brook University

Aug 2016 – Present USA GPA 3.84/4.00

Relevant Coursework: Machine Learning · Convex Optimization · Data Science · Algorithm

BEng in Computer Science

Hanoi University of Science & Technology

2005 – 2010 Vietnam GPA 3.16/4.00

Relevant Coursework: Linear Algebra · Probability & Statistics · Numerical Methods · Digital Signal Processing · Software Design & Development

IBM Certified Solution Designer · Application Developer · DB2

Coursera Certified Game Theory · Social Network Analysis