Ngoc-Quang Nguyen

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Skills

EDA, Statistics, Modeling, Communication.
Technique Languages: Python, Java, C#.
Others: AWS Unix/Linux, working cross-functionally.

Projects

Drug target interaction

- MulinforCPI: Enhancing Compound-Protein Interaction Prediction Efficiency through Novel Perspectives on multi-Level Information Integration [paper][code].   *2022-present.*
- PerceiverCPI: Developing cross attention mechanism for drug protein interaction prediction: MLP, Graph Net, 1DCNN [paper][code].   *2020-2022.*

Drug design

- Developing reinforcement learning for generating high binding affinity molecules to targets.   *2019-2020.*

Medical imaging

- Applying a consecutive DeepLabv3+ encoder decoder network for tumor segmentation with novel augmentation technique. [paper1, paper2, paper3] [code]   *2017-2019.*

Education

Korea University

PhD, Computer Science and Engineering
93.5% GPA.   *2020-Present.*

Gachon University

MSc, Computer Science and Engineering
80.6% GPA.   *2017-2019.*

Vietnam National University

BEng, Mechanical Engineering
75.5% GPA.   *2012-2017*

Awards

- ***Korea University Best paper award 2023***
    Feb 24, 2023.

Work

DMIS lab   *Sep.2020 – present.*

Machine Learning and AI Researcher.
(Major: Drug discovery)

- Analyzing large-scale datasets from various sources such as biochemical assays such as: Davis, KIBA, Metz, DUD_E….
- Building deep learning models and algorithms predict protein-compound interactions mainly focusing on multimodal learning by cross-attention mechanism.
- Developing model to capture 3D geometric information with Equivariant neural networks.

Voronoi Inc.   *Aug.2019 - Jul.2020.*

Machine Learning and AI Researcher.
(Major: Drug discovery)

- Developed and applied reinforcement learning techniques for small molecule generation.
- Used D-MPNN for predicting compound properties.
- Collaborated with biologists, chemists, and other researchers to design experiments, validate predictions, and optimize experimental conditions.

PRML lab   *Sep.2017 - Jul.2019.*

Machine Learning and AI Researcher.
(Major: Computer Vision)

- Medical imaging analysis (Image segmentation for seeking lung, colon, breast tumor).
- Face recognition: Automatic door recognition (Using face to open the lab door).

NTQ Solution   *Jun.2015 - Sep.2015.*

Robotic engineer, Intern.
(Major: Robotics)

- Built guidance robot with Raspi kit controlling by gaming remoter.

Selected Publications

First author:

- MulinforCPI: enhancing precision of compound-protein interaction prediction through novel perspectives on multi-level information integration, ***Briefings in Bioinformatics.***
- Perceiver CPI: a nested cross-attention network for compound–protein interaction prediction. ***Bioinformatics***.
- Robust Boundary Segmentation in Medical Images using a Consecutive Deep Encoder-Decoder Network. **IEEE Access.**

Co-author:

- Classification of Breast Cancer Histology Images Using Incremental Boosting Convolution Networks. ***Information Sciences.***

References

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