Minseong Bae | Curriculum Vitae

✉ bms2002@korea.ac.kr   KyleBae1017

Education

Busan Science High School   **Busan, South Korea**
                                                                              2018-2020

Korea University   **Seoul, South Korea**
College of Informatics, Dept. of Computer Science & Engineering   *2021-Current*
- (Plan) Double Major : Dept. of Mathematics
- GPA : 4.50/4.50 (for 3 semesters)

Interests

Computer Science
- Machine Learning / Deep Learning : Computer Vision, Natural Language Processing
- Graph Neural Networks
- Safe AI (Adversarial Attack)
- Programming Language
- Problem Solving

Mathematics
- Algebra
- Discrete Mathematics & Graph Theory
- Number Theory & Cryptography

Projects

Epitope prediction in allergens using PPI prediction model   *2019*
- Team project with 3 students
- Data Preprocessing with Stanford SNAP Yeast PPI data
- Model based on scikit-learn, Tensorflow, Keras
- Paper uploaded on Github
- Awarded 2019 R&E Academic Presentation Contest
- Awarded 14th KSCY Excellent Youth Scholars Award in Computer Engineering Session

Transformation of Non-Linear Activation Functions to Linear by Taylor Approximation   *2020*
- Approximation of non-Linear activation functions with Taylor Approximation and application to neural networks
- Accuracy is maintained or even enhanced with approximated functions
- Full code and documents on Github

Prediciton of Successful Shooting and Connectivity Index of Team Network in Basketball   *2021*
- Project for GEST151 Data Science and Artificial Intelligence
- Predicting whether shooting is successful or not with NBA shooting data using machine learning
- Visualization of team network and devising connectivity index of team with NBA game pass data
- Full code on Github

Awards

2018 I&D Academic Presentation Award - 3rd   *2018*
- Development of Remotely Operated Underwater Robot of Collaborative Robot for Ship Salvage

2019 R&E Academic Presentation Award - 3rd *2019*
o Epitope prediction in allergens using PPI prediction model

14th KSCY Excellent Youth Scholars Award *2019*
o In Computer Engineering Session
o Epitope prediction in allergens using PPI prediction model

36th Seoul National University Data Mining Camp - 2nd *2019*

5th Super Computing Youth Camp by KISTI & UNIST - 2nd *2019*

Dean's Award *2021 Spring*

President's Award *2021 Fall, 2022 Spring*

Courseworks

Math for Computer Science I (Prof. Seungryong Kim) *2021*
o Basic Linear Algebra

Data Structure *2021*
o Data Structure and Algorithms with C++

Algorithms *2021*
o Learning Algorithm Designing Method with CLRS

Artificial Intelligence *2022*
o Basic AI Algorithms based on Berkeley CS188

Theory of Computation *2022*
o Theory about Formal Language and Automata

Calculus I *2022*
o Basic Calculus (Differentiation, Integration, Series, Vector and Vector Function)

Number Theory *2022*
o Basic Number Theory (Integers, GCD, Congruence, Basic Cryptology, Primitive Roots, Quadratic Residues, Diophantine Equations)

Skills

o **Programming Languages:** Python, C, C++
o **Frameworks & Tools:** Tensorflow, Keras, scikit-learn, Linux
o **Languages:** Native in Korean, Conversational in English

Extracurricular Activities

Leader for Korea University Computer Science Academy *2021 Sep-Current*
o Various Studies and Projects about Computer Science
o Also Working as Instructor for Linear Algebra / Probability & Statistics studies

President of Korea University College of Informatics Club Association *2022 Mar-Current*
o Management of All Clubs in College of Informatics
o Also Participating Standing Committee of College

Undergraduate Intern in MLV Lab of Prof. Hyunwoo J. Kim *2022 Jul-Current*

- Undergraduate Intern for Korea University MLV Lab (https://www.hyunwoojkim.com/)
- Studying Graph Neural Networks, Machine Learning

Completed Yonsei University-Naver Cloud Data Science Education Course *2021*

- All course with Python, Basic theory and exercise with code
- Basic ML Algorithms : Linear Regression, Decision Tree, Logistic Regression
- Artificial Neural Networks & Deep Learning(CNN, RNN, Q-learning), Random Forest, SVM
- Text Mining & NLP