

Minseong Bae | Curriculum Vitae

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🔗 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 (2021 Spring - 2022 Spring, 3 semesters)

Interests

Computer Science

- Machine Learning / Deep Learning : Computer Vision, Natural Language Processing
- Reinforcement Learning
- Theory of Computation
- Problem Solving

Mathematics

- Linear Algebra
- Discrete Mathematics & Graph Theory
- Number Theory & Cryptology

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

Prediction 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	<i>2019</i>
○ Epitope prediction in allergens using PPI prediction model	
14th KSCY Excellent Youth Scholars Award	<i>2019</i>
○ In Computer Engineering Session	
○ Epitope prediction in allergens using PPI prediction model	
36th Seoul National University Data Mining Camp - 2nd	<i>2019</i>
5th Super Computing Youth Camp by KISTI & UNIST - 2nd	<i>2019</i>
Dean's Award	<i>2021 Spring</i>
President's Award	<i>2021 Fall</i>

Courseworks

Math for Computer Science I (Prof. Seungryong Kim)	<i>2021</i>
○ Basic Linear Algebra	
Data Structure	<i>2021</i>
○ Data Structure and Algorithms with C++	
Algorithms	<i>2021</i>
○ Learning Algorithm Designing Method with CLRS	
Artificial Intelligence	<i>2022</i>
○ Basic AI Algorithms based on Berkeley CS188	
Theory of Computation	<i>2022</i>
○ Theory about Formal Language and Automata	
Calculus I	<i>2022</i>
○ Basic Calculus (Differentiation, Integration, Series, Vector and Vector Function)	
Number Theory	<i>2022</i>
○ Basic Number Theory (Integers, GCD, Congruence, Basic Cryptology, Primitive Roots, Quadratic Residues, Diophantine Equations)	

Skills

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

Extracurricular Activities

Leader for Korea University Computer Science Academy	<i>2021 Sep-Current</i>
○ Various Studies and Projects about Computer Science	
○ Also Working as Instructor for Linear Algebra / Probability & Statistics studies	
President of Korea University College of Informatics Club Association	<i>2022 Mar-Current</i>
○ Management of All Clubs in College of Informatics	
○ Also Participating Standing Committee of College	
Completed Yonsei University-Naver Cloud Data Science Education Course	<i>2021</i>

- 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