

# Minseong Bae | Curriculum Vitae

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🌐 KyleBae1017

## Education

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**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

## Interests

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### Computer Science

- Machine Learning / Deep Learning : Computer Vision, Natural Language Processing
- Data Science
- Problem Solving

### Mathematics

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

## Projects

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### 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 Devising 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

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### 2018 I&D Academic Presentation Award - 3rd

*2018*

- Development of Remotely Operated Underwater Robot of Collaborative Robot for Ship Salvage

<b>2019 R&amp;E Academic Presentation Award - 3rd</b>	<i>2019</i>
○ Epitope prediction in allergens using PPI prediction model	
<b>14th KSCY Excellent Youth Scholars Award</b>	<i>2019</i>
○ In Computer Engineering Session	
○ Epitope prediction in allergens using PPI prediction model	
<b>36th Seoul National University Data Mining Camp - 2nd</b>	<i>2019</i>
<b>5th Super Computing Youth Camp by KISTI &amp; UNIST - 2nd</b>	<i>2019</i>
<b>Dean's Award</b>	<i>2021 Spring</i>

## Courseworks

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<b>Math for Computer Science 1 (Prof. Seungryong Kim)</b>	<i>2021</i>
○ Basic Linear Algebra	
○ #1 on Final Exam	
<b>Data Structure</b>	<i>2021</i>
○ Data Structure and Algorithms in C++	
<b>Algorithms</b>	<i>2021</i>
○ Basic Algorithms and Designing Algorithm with CLRS	
○ #1 in Total Coursework	

## Skills

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

## Extracurricular Activities

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<b>Leader for Korea University Computer Science Academy</b>	<i>2021 Sep-Current</i>
○ Various Studies and Projects about Computer Science	
○ Also Working as Instructor for Linear Algebra / Probability & Statistics studies	
<b>Member for ALPS</b>	<i>2021-Current</i>
○ Studying Problem Solving and Algorithms	
<b>Completed Yonsei University-Naver Cloud Data Science Education Course</b>	<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	