Jueon Kim

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EDUCATION

Sungkyunkwan University, Seoul, South Korea   Expected Feb 2025
Bachelor of Science in Integrative Biotechnology & Computer science and Engineering & Bioinformatics
GPA: 3.94/4.0
Related Coursework: Biostatistics; Data Structure; R and Python; Statistics for machine learning

University of North Carolina Greensboro, NC, United States   Jan 2024 - May 2024
Student exchange program
GPA: 3.92/4.0
Related Coursework: Principles of biology; Data computing and quantitative reasoning

Pukyong National University, Busan, South Korea   Mar 2020 - Feb 2022
Bachelor of Science in Microbiology
GPA: 3.45/4.0
Transferred to Sungkyunkwan university in the junior year

RESEARCH EXPERIENCE

Computational biomedicine lab, Sungkyunkwan University   Jul 2024 - Present
Undergraduate researcher (advisor: Hoon Kim)
- Implemented a Docker pipeline to automatically analyze single-cell multiomics data

Genome Editing Lab, Sungkyunkwan University   Jul 2023 - Aug 2023
Undergraduate researcher (advisor: Huikwon Kim)
- Executed high-throughput CRISPR screenings to build IscB library
- Analyzed NGS genomic data in genomics for monitoring REC linker mutation status

Molecular Immunology Lab, Sungkyunkwan University   Jan 2023 - Feb 2023
Undergraduate researcher (advisor: Jaeyoul Cho)
- Conducted transfection of tagged NF-kB into HEK 293T cell
- Tested anti-inflammatory effects of natural extracts through cell cytotoxicity

Neurodegeneration & Extracellular vesicles Lab, Sungkyunkwan University   Jun 2022 - Jan 2023
Undergraduate researcher (advisor: Donggyu Jo)
- Visualized β-amyloid plaques by immunohistochemistry(IHC) after excising mouse brains
- Reviewed and presented newly published journals related to Alzheimer's disease

PROJECT EXPERIENCE

Imaging of amorphous suspended proteins using LAFM and NeRF deep learning model
Samsung Bioepis Idea Contest   Feb 2023
- Won 2nd prize out of 141 teams
- Identified limitations of existing methods used for imaging antibodies and plan strategy by deploying LAFM and NeRF deep learning model
- Led presentation on feasibility and applicability

Machine learning model development for early diagnosis of Alzheimer's disease

Sungkyunkwan university research contest   Nov 2022
- Yield AUC of 0.96, 92% accuracy and received 2nd prize
- Led team of 4 to predict the presence of Alzheimer's disease with RNA biomarker
- Architected random forest algorithm to extract top 20 mRNA candidates based on feature attribution and Developed MLP classifier

SKILLS

Laboratory skills:
- Cell biology: Cell culture; Cytotoxicity assay; Cell imaging(Cytation5)
- Molecular biology: PCR, qPCR, RT-PCR; Western and Southern blotting; ELISA; Spectrofluorometry; Genotyping; DNA cloning, synthesis, assembly; Mutagenesis; NGS preparation, NGS (bulk and single-cell sequencing) analysis; Transfection; Transformation; Transduction
- Separation&Purifictaion: FACS; Chromatography; Immunoprecipitation; Spectrofluorometry
- Animal testing: Mouse behavioral experiments; Brain sampling; Drug test
Programing languages: Proficient in Python, C, R; Intermediate in HTML, SCSS, MATLAB
Packages: Pandas, NumPy, Spicy, Polars, Scikit-learn, Matplotlib, Seaborn, PyTorch
DevOps: Docker; Git/GitHub; Linux, Shell script

CAMPUS & COMMUNITY INVOLVEMENT

Academic club Lifeom   Sep 2022 - Present
Peer Tutor   Sep 2024 - Present
- Taught mentees in Genetics

Department of biotechnology's academic camp
General affairs   Jan 2023 - Apr 2023
Program team   Jul 2022 - Nov 2022

AWARDS AND SCHOLARSHIPS

Academic Scholarship from Sungkyunkwan University   Spring 2024
- Received 70% tuition fee for academic excellence (3%)
Corporate Scholarship from Mirae Asset   Dec 2023
- Received $5,500 for student exchange program
Corporate Scholarship from seAH   Oct 2023
- Received $2,200 for the startup presentation
2nd prize, Samsung Bioepis idea contest   Feb 2023
2nd prize, Sungkyunkwan university Research contest   Nov 2022