Boosung Kim

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EDUCATION

Dickinson College, Carlisle PA   Expected: 2025

Bachelor of Science in Mathematics and Computer Science   Cumulative GPA: 4.0/4.0

RESEARCH EXPERIENCE

Dickinson College Tome Robotics Lab   Summer 2021

Undergraduate Computer Vision Research Assistant supervised by Professor John MacCormick   Carlisle, PA

- Explored and applied advanced Convolutional Neural Network visualization techniques using TensorFlow/Scikit-learn
- Enhanced existing software packages to optimize CNN visualizations for a non-expert audience, effectively bridging the gap between complex algorithms and accessible interpretation
- Conducted an extensive review of 12 cutting-edge CNN research papers and conference articles, synthesizing key findings and advancements in the field

Rector Biochemistry & Molecular Biology Research Lab   Spring 2021

Computational Bioinformatics Research Assistant supervised by Professor Michael Roberts   Carlisle, PA

- Developed a robust data pipeline for machine learning model development, enabling advanced analysis and insights into Acute Myeloid Leukemia (AML) cell data
- Designed and trained highly accurate classifier models, achieving an impressive 90% accuracy, to predict EGR1 cancer relapse levels by leveraging Scikit-Learn and Pandas libraries for efficient model development
- Actively contributed to weekly stand-up meetings, delivering comprehensive presentations on research findings and providing insightful interpretations of AML Bioinformatics papers

WORK EXPERIENCE

South Korean Army Division 1 Reconnaissance Battalion   2021 – 2023

Tunnel Neutralization Team Data Analyst   Paju, Korea

- Collected and preprocessed +30 North Korean underground sound data using Fast Fourier Transformation and AI tools
- Demonstrated exceptional leadership skills during more than 10 reconnaissance missions, successfully deploying and managing specialized military computer systems within the intense environment of the Korean Demilitarized Zone
- Co-founded the RECON Coding Bootcamp, empowering over 10 soldiers and officers with invaluable skills in Scikit-learn and TensorFlow, enhancing their ability to address complex military challenges through advanced data analysis
- Recognized with the Academic Excellence Award for securing the second position among a cohort of over 70 trainees at the Korea Army Intelligence School's distinguished Class of 2021

TEACHING EXPERIENCE

COMP 232 Data Structures and Algorithms, Teaching Assistant, Dickinson College   Fall 2023

COMP 130 Computing with Python, Teaching Assistant, Dickinson College   Spring 2021

MATH 270 Integration and Infinities, Teaching Assistant, Dickinson College   Spring 2021

MATH 171 Multivariable Calculus, Teaching Assistant, Dickinson College   Spring 2020, Fall 2020

PROJECTS

Milestone CNN Model Implementations   github.com/boosungkim/milestone-cnn-model-implementations

- Developed and implemented milestone Convolutional Neural Network models based on groundbreaking research papers
- Conducted experiments to reproduce and validate the impressive results reported in these influential papers
- Dedicated to promoting knowledge sharing, made the intricate model architectures and creation process easily accessible to a wide audience

Custom Chess Engine | Python3, C++   github.com/boosungkim/custom-chess-engine

- Coded a chess platform with single-player and multi-player capabilities for Army soldiers without Internet access
- Created a full chess engine with a GUI interface and a simple chess AI from scratch using Python and C++
- Implemented Minimax and Alpha Beta Pruning algorithms to determine optimal moves

Dickinson College Menu Bot | Python3 (BeautifulSoup, SMTP)github.com/boosungkim/dickinson-college-menu-bot

- Developed a Python web scraper that retrieves and formats the cafeteria menu for 50+ students, professors, and faculty
- Implemented email automation using the smtplib library to send the formatted menu as a notification to subscribers

Honors & Awards

Present	Dean's List (all semesters)
2021	Pi Mu Epsilon (Mathematics)
	Upsilon Pi Epsilon (Computer Science)
	Henry P. Cannon Memorial Prize in Mathematics (Top Sophomore)
2020	William W. Landis Memorial Prize in Mathematics (Top Freshman in Math)
	Jane Hill Prize for excellence in Computer Science (Top Freshman in CS)
	Alpha Lambda Delta
2019	Benjamin Rush Scholarship with a grant of $60,000$

Technical Skills

Programming Languages: Python, C++
Deep Learning Frameworks: PyTorch, TensorFlow, Keras, Scikit-Learn
Developer Tools: Git, Docker, VSCode, PyCharm, Linux
Languages: English (native), Korean (native), Chinese (fluent)