

GunGyeom James Kim

kim.gu@northeastern.edu | (207)400-0864 | Portland, ME | <https://www.linkedin.com/in/gg-james-kim/>
Available: Jan 2024 - | <https://github.com/rodroadl>

EDUCATION

Northeastern University - Roux Institute, Portland, ME

MS in Computer Science

Sep 2021 - Dec 2023

GPA: 4.0 / 4.0

SangMyung University, Seoul, South Korea

BS in Mathematics Education

March 2013 - Feb 2020

GPA: 3.53 / 4.5

RESEARCH

Log Chromaticity Space Exploration on Color Constancy

Northeastern University - Maxwell Research Group

Oct 2023 -

- First to implement the model, train, and test pipeline as described in Bianco's paper and make it publicly accessible
- Experimented and evaluated the performance of Log Chromaticity Space on Color Constancy.
- Proved that average prediction with log chromaticity is 1.6 times more accurate than that of linear chromaticity

PROJECT

Intrinsic Image Decomposition of shadowScenes

Northeastern University - Roux institute

Nov 2023 - Dec 2023

- First to implement the Maximum Likelihood (ML) estimation algorithm by Weiss and Photometric Ambient Occlusion (PAO) algorithm by Hauage et al. in python, and make it publicly accessible
- Decomposed MIT intrinsic dataset and shadowScenes dataset into intrinsic images by ML estimation, PAO, and unsupervised deep learning approach by Lettry et al., and evaluated output qualitatively
- Provided the baseline for shadowScenes dataset in intrinsic image decomposition

Segmentation of invasive plants using CNN

Northeastern University - Roux institute

Jan 2023 - Apr 2023

- Segmented invasive plants in Cape Elizabeth, Maine using U-Net
- Created the train and test pipeline
- Experimented various ways to improve performance of the network for given task

WORK EXPERIENCE

Northeastern university

Teaching Assistant and Computer Science Tutor

Portland, ME, USA

Jan 2022 - April 2023

- Assisted teaching in various courses and topics - Mathematics, data structures, and algorithm
- Created solutions in professional manner
- Designed rubrics to evaluate students efficiently

Attached Girl's Highschool to College of Education, SangMyung University

Math Teacher - Trainee

Seoul, South Korea

April 2019 - May 2019

- Taught Math 1 to 10th grader and discussed my and others lecture

Hansol Academy

Math Instructor

Seoul, South Korea

May 2018 - April 2019

- Taught from 7th to 10th grader

MISCELLANEOUS

Math Motivator, The Acturial Foundation

Math Tutor

Portland High School

Jan 2022 -

- Tutor Mathematics to underachieving students with diverse background
- Grades increased by an average of 7 percentage points after completion of the program
- Confidence levels in solving math problems increased by an average of 8 percent on a Likert scale

22nd Happymove Global Youth Volunteers, Hyundai Motor Company

Associate Leader

Chennai, India

Feb 2019

- Leading the team with leader as associate leader
- Invented appropriate technology product to address environment issue in local area
- Improved school environment by building walls around and the restroom

auxiliary

EDUCATION

SangMyung University, Seoul, South Korea
BK in Sports Health Management

March 2013 - Feb 2020
GPA: 3.53 / 4.5

PROJECT

Le Sailing Game

Personal

Oct 2023 -

- Implemented Physics for sailing

Web Forum with vote system

Northeastern University - Roux institute

May 2023 - Aug 2023

- Deployed Web Forum Application with vote system
- Implemented the frontend and backend for the application

Interactive Visual Proof of Mathematics

Personal

March 2023 -

- Created an interactive visualization of 'Forces on sails' showing how driving and lateral forces system is mapped to drag and lift system
- Created an interactive visualization of 'A Geometrical Method for Finding an Explicit Formula for the Greatest Common Divisor'
- Created an interactive visualization of 'Arithmetic-Geometric Mean' showing each sequence converges to same value
- Created an interactive visualization of 'Inequality of arithmetic and geometric means'

Dashboard of Bioscience Ecosystem in Maine

Northeastern University - Roux institute

Oct 2022 - Dec 2022

- Created Dashboard of Bioscienc Ecosystem in Maine using Observable (javascript based tool) and Gitpage
- Built geographical map of maine via Maplibre API and several graph serving different purposes
- Designed Database in mySQL scheme and data structure in backend

API for NLP and EDA on Education ACTION Forum of Maine Conversation Data Set

Northeastern University - Roux institute

June 2022 - Aug 2022

- Performed Natural Language Processing - tuning stopwords, lemmatizing, term frequency, inverse document frequencny - and Exploratory Data Analysis on Education ACTION Forum of Maine Conversation Data set and visualized result using WordCloud in python
- Constructed API and documentation for successor

Relational Database of Crossfit

Northeastern University - Roux institute

Oct 2022 - Dec 2022

- Generated Relational Database of Crossfit using mySQL
- Populated four tables, WOD/Movement/Motion/Muscle following third Normal Form

Visualization and application of KNN algorithm

Northeastern University - Roux institute

June 2022 - Aug 2022

- Implemented K-Nearest-Neighbor Algorithm from scratch and visualized with Animation in python
- Assembled various weight function for algorithm, uniform, distance, squared distance and rank
- Benchmarked performace with KNN function in Sci-kit

2D Adventure/RPG game

Northeastern University - Roux institute

March 2022 - May 2022

- Produced 2D adventure/RPG game using Java
- Modeled basic 2D game engine and designed map of my campus and professors as NPC

Image Processing in Commodore 64

Northeastern University - Roux institute

Oct 2021 - Dec 2021

- Researched about how Commodore 64 processed Image and implemented the processor in python
- Created 1-bit, 2-bit, color cells, multi-color mode and bit masking in python

HONOR AND AWARD

Presenter of Khoury 40th Anniversary in Roux(2023), SM-IN Core Competency Accreditation(2020), Excellence Award in 11th Pre-Teacher Teaching Competency Contest(2018)