

Sean Kim

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EDUCATION

Rutgers University - New Brunswick

GPA: 3.84

Bachelor of Arts - Computer Science

Expected Graduation: May 2026

- **Relevant Coursework:** DSA, Computer Architecture, Databases, Data Management, Deep Learning
- **Dean's List:** 2022-2024

EXPERIENCE

Rutgers UHACCS Hackathon | [GitHub](#)

December 2022

Participant

New Brunswick, NJ

- Developed a linear regression library in **Java** with support for data entry, finishing **4th** out of **90** participants.
- Implemented least squares approximation from scratch for line of best fit calculation on loaded datasets.

Cafe Leah

May 2023 - December 2023

Barista

Palisades Park, NJ

- Made an average of **20** bingsoo and **10** coffee per hour.
- Oversaw daily inventory management, maintaining a **100%** availability rate to match customer demand.

PROJECTS

ref:type | [GitHub](#) | [REFTYPE.APP](#)

TypeScript, React.js, Node.js, Google Cloud SQL, Firebase

- Built a competitive typing game in **React.js** deployed on **Firebase Hosting** with a real-time leaderboard.
- Increased average typing speed of **120 users** to over 100 words per minute during a two week testing period.
- Leveraged **Firebase Cloud Functions** written in **Node.js** to update leaderboard and user profiles as scores change, ensuring consistency between clients with **sub-150ms** latency.
- Implemented a **MySQL** database on **Google Cloud SQL** to manage user data and leaderboard status.

depparse-grammar | [GitHub](#)

Pandas, spaCy, Firebase

- Developed a dependency parser based grammar checking engine, leveraging **spaCy** training pipelines to support multiple languages and custom grammar rules.
- Engineered a corpus augmentation pipeline to train a dependency parser and part of speech tagger on user-defined grammar errors, increasing parser LAS by **37%** and tagger F1 score by **19%** on erroneous sentences.
- Deployed the English grammar checking model on **Firebase**, available through a **React** web interface.
- Created an ETL pipeline with **Pandas** to identify the top grammar mistakes made by over **300** ESL students.

pycaptcha | [GitHub](#)

OpenCV, PyTorch, Pandas, NumPy, Matplotlib

- Developed a CAPTCHA system with object detection using YOLOv4-tiny fine-tuned on a **12,000** image dataset.
- Engineered a dataset augmentation pipeline with **NumPy** and **Matplotlib**, reducing average loss to **0.06**.
- Built a post-processing pipeline with **Pandas** to discard images with false detections, resulting in a **13%** increase in precision on tested images compared to the pretrained model.

TECHNICAL SKILLS

- **Languages:** Java, Python, TypeScript, JavaScript, C, SQL
- **Libraries:** React.js, Tailwind CSS, NumPy, Pandas, PyTorch, OpenCV, Matplotlib
- **Frameworks and Tools:** Node.js, Express.js, Git, Firebase, Jupyter Notebook