

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 Platform

- Built a competitive typing game in **React.js** deployed on **Firebase Hosting**.
- Increased average typing speed of **120 users** to over 100 words per minute in the first two weeks of deployment.
- Leveraged **Firebase Cloud Functions** written in **Node.js** for real-time leaderboard and user profile updates, 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](#)

spaCy, Firebase, React

- Developed a dependency parser based grammar checking model using **spaCy** with multi-language capabilities.
- Integrated spaCy training pipelines into a corpus augmentor to train a dependency parser and POS tagger on user-defined grammar errors, increasing parser LAS by **37%** and tagger F1 score by **19%**.
- Deployed the English grammar checking model on **Firebase**, available through a **React** web interface.
- Created an ETL pipeline to analyze data from over **300** ESL students to improve the model's performance.

pypcaptcha | [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, GCP, Jupyter Notebook