

Sean Knight

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Education

Massachusetts Institute of Technology (MIT) August 2019 – May 2023 (Cambridge, MA)

Computation and Cognition (6-9) Major / 5.0 out of 5.0

- Introduction to Computer Science, Fundamentals of Programming, Mathematics for Computer Science, Introduction to Algorithms (includes data structures), Signal Processing, Linear Algebra and Optimization, Introduction to Machine Learning, Design and Analysis of Algorithms
- Introduction to Neuroscience, Introduction to Neural Computation, Sensation and Perception

AI4ALL @ Carnegie Mellon University

June 2018 – July 2018 (Pittsburgh, PA)

- Learned about and implemented numerous machine learning methods with the guidance of Carnegie Mellon professors.

Skills

- **Languages:** Python, Java, Julia, MATLAB, Shell Scripting (*Bash*, *PowerShell*), HTML/CSS/SASS/JS,
- **Frameworks and Technologies:** Git, REST (*Express.js*, *Flask*, *FastAPI*), WebSocket (*socket.io*), Linux, NoSQL (AWS *DynamoDB*), GraphQL, ReactJS, Machine Learning (*TensorFlow*, *Keras*, *scikit-learn*)
- **Design:** Affinity Designer, Affinity Photo, Adobe Illustrator, Adobe Photoshop
- Chinese (Conversational)

Experience

Software Engineer Intern @ BusySquirrels

January 2021 (Virtual)

- Developed the [BusySquirrels browser extension](#) that allowed for seamless visitation cashback and transaction recording. (*ReactJS*, *GraphQL*, *Amplify*, *AWS*, *Webpack*, *Polyfill*)
- Responsible for improving client website experience by developing essential features such as authentication flows.

Machine Learning Research Intern @ MIT Quest for Intelligence Initiative

June 2020 – September 2020 (Virtual)

- Implemented [AutoKNN regression algorithm](#) which helped to improve sub-seasonal weather forecasting. The AutoKNN implementation was included in an ensemble that set a benchmark for the US Bureau of Reclamation and NOAA-sponsored Forecast Rodeo II competition.
- Expanded existing sub-seasonal weather forecasting models to predict on the contiguous US region by updating model report tools, data pipelines, and the models themselves.
- Improved existing model performance by utilizing conditioning variables such as Madden-Julian Oscillation (MJO) and Multivariate ENSO Index (MEI.v2).

IT and Web Developer @ United Home Technologies

March 2017 – August 2019 (Washougal, WA)

- Developed and redesigned numerous websites as part of company image revitalization and subsidiary launch.
- Managed servers and domains to keep website, email, cloud storage, and other IoT assets running properly.

Projects (more @ [GitHub](#))

Melodiq @ [melodiq.herokuapp.com](#)

2020

- Multiplayer music quiz game that employed the use of the Spotify API and various NLP techniques.
- Implemented with ReactJS, ExpressJS, WebSocket, REST and deployed on Heroku.

Untitled @ HackMIT 2019

2019

- Created a user-tailored texting forum that utilized crowd sourcing to provide local information, such as news and market pricing, as well as external information, such as travel and weather data, to areas lacking data coverage.
- Implemented with Python and Twilio API and deployed on AWS Lambda with DynamoDB.

Leadership Experience

Captain @ FTC Robotics Team

September 2017 – June 2019

- Led programming team to develop user-control and autonomous code for use at multiple competitive levels.
- Led efforts to redesign team website which ultimately improved team image and helped gain sponsors.