STEPHEN E. OTREMBA Jr.

sotremba@mit.edu | linkedin.com/in/sotremba | stephenotremba.com

EDUCATION

Massachusetts Institute of Technology – Cambridge, MA   *4.7/5.0 GPA*
Master of Engineering in Computer Science & Engineering; Concentration in Artificial Intelligence   *Expected June 2022*
Bachelor of Science in Computer Science & Engineering; Minor in Mathematics   *Graduated June 2021*
- **Relevant Coursework:** Software Construction, Computational Statistics, Algorithms for Inference, Modeling with Machine Learning, Design & Analysis of Algorithms, Computer Systems Engineering, Probability & Random Variables

WORK EXPERIENCE

Google – Mountain View, CA
Returning Software Engineering Intern – *Google Ads*   *May 2021 – Sep 2021*
Software Engineering Intern – *Client Side Identity*   *May 2020 – Aug 2020*
- Redesigned secure open source library methods to assist third party web developers with the integration of Google Sign In
- Produced mock websites and UX documentation to demonstrate proper integration and use of Google's sign in products

Outage, LLC – Boston, MA   *Aug 2019 – Aug 2020*
Quantitative Analyst – *Player Valuation*
- Modeled future professional baseball player salaries using machine learning techniques and historical contract data
- Devised and implemented algorithms to assist MLB agents in maximizing contract values in open-market negotiations

Walmart eCommerce – Hoboken, NJ   *May 2019 – Aug 2019*
Software Engineering Intern – *Jet.com*
- Created simulation modules in Python for design analysis of next-generation fulfillment center systems
- Developed a cost effective and customizable alternative to the simulation solutions currently used for system analysis

Raytheon – Woburn, MA   *May 2018 – Aug 2018*
Software Integration and Validation Test Intern – *Integrated Defense Systems*
- Maintained and utilized MATLAB scripts for the analysis of radar data retrieved from software integration tests
- Engineered a script to streamline the data analysis process by queuing tests to be run on the desired datasets

PROJECT & RESEARCH EXPERIENCE

Professional Baseball Strategy Evaluation   *May 2021 – Present*
MIT Julia Lab – *Master of Engineering Thesis Topic*
- Evaluate optimal in-game decision making policies for professional baseball with reinforcement learning techniques
- Analyze historical MLB pitching data to discover tailored, exploitative strategies for individual player opponents

FIFA Offside Difficulty Quantification   *Sep 2020 – Dec 2020*
MIT Sports Lab
- Developed machine learning algorithms to quantify the difficulty of offside situations in professional football matches
- Coordinated regular meetings with FIFA officials to best tailor the model in assisting in-game referee decisions

Real-Time Embedded Remote Game System   *Apr 2020 – May 2020*
Interconnected Embedded Systems Final Project
- Configured an ESP32 microcontroller to play a remote variant of Pictionary with other microcontroller systems
- Designed and implemented a data flow allowing clients to send and receive game information through a central server

Virtual Reality Driving Simulation   *Jan 2018*
MIT Momentum Competition
- Received Best Project Implementation Award for a hazardous driving simulator using C# script and the Unity 3D platform
- Linked Windows Mixed Reality headset and controllers to the project to replicate the driving experience

LEADERSHIP

MIT Pokerbots – Cambridge, MA   *Apr 2019 – Present*
Head Instructor; Former Treasurer
- Direct a coding competition in which participants learn machine learning topics to create a bot capable of playing poker
- Campaign for over $70,000 in company sponsorships and manage club expenses for teaching materials and student prizes

Phi Kappa Theta Fraternity – Boston, MA   *Sep 2017 – Present*
President; Former Vice President
- Manage executive members and serve as a liaison between the fraternity, MIT administration, and the City of Boston
- Organize community service events and fundraising efforts for charitable works in the Boston area

SKILLS AND INTERESTS

- **Technical**: Python (NumPy, Pandas, Keras, Scikit-learn, SimPy), Java, C++, Git, Google Cloud
- **Personal Interests**: Sports Analytics, Teaching, Running and Fitness, Cooking, Los Angeles Dodgers