

# STEPHEN E. OTREMBA Jr.

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## EDUCATION

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**Massachusetts Institute of Technology** – Cambridge, MA 4.6/5.0 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* Expected June 2021

- **Relevant Coursework:** Software Construction, Algorithms for Inference, Modeling with Machine Learning, Design & Analysis of Algorithms, Computer Systems Engineering, Probability & Random Variables

## WORK EXPERIENCE

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**Google | Client Side Identity** – Sunnyvale, CA May 2020 – August 2020  
*Software Engineering Intern*

- 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 | Player Valuation** – Boston, MA August 2019 – August 2020  
*Quantitative Analyst*

- 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 | Jet.com** – Hoboken, NJ June 2019 – August 2019  
*Software Engineering Intern*

- 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 | Integrated Defense Systems** – Woburn, MA May 2018 – August 2018  
*Software Integration and Validation Test Intern*

- 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 EXPERIENCE

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**FIFA Offside Difficulty Quantification** September 2020 – Present  
*MIT Sports Lab*

- Develop machine learning algorithms to quantify the difficulty of offside situations in professional football matches
- Coordinate regular meetings with FIFA officials to best tailor the model in assisting in-game referee decisions

**Real-Time Embedded Pictionary System** April 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

**Competitive Crossword Puzzle Game** April 2019 – May 2019  
*Elements of Software Construction Final Project*

- Programmed client-server software implementing a competitive multiplayer crossword puzzle with an interactive UI
- Enabled the game server to handle an arbitrary number of head-to-head games concurrently

**Virtual Reality Driving Simulation** January 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

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**MIT Pokerbots** – Cambridge, MA April 2019 – Present  
*Head Instructor, Past: 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 September 2017 – Present  
*President, Past: Vice President, Risk Manager*

- Manage executive members and serve as a liaison between the fraternity, MIT administration and the City of Boston
- Organize community service events and ongoing fundraising efforts for COVID-19 relief in the Boston area

## SKILLS AND INTERESTS

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- **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