STEPHEN E. OTREMBA Jr.

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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 Performance Engineering, Design & Analysis of Algorithms, Systems Engineering, Computational Statistics, Algorithms for Inference, Modeling with Machine Learning, Probability & Random Variables

WORK EXPERIENCE

Google – Mountain View, CA
Graduate Software Engineering Intern – *Ads Machine Learning* *June 2021 – Present*

- Extend data querying capabilities of Google's targeted advertising development console by implementing C++ services to fetch and process ML model data and display the results in an interactive Angular frontend
- Train clustering algorithms to automate the Ads ML development workflow by suggesting relevant model architectures

Software Engineering Intern – *Client Side Identity* *May 2020 – Aug 2020*

- Redesigned secure open source libraries 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 players using reinforcement learning
- Analyze historical MLB pitching data to discover tailored, exploitative strategies against specific 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 protocol allowing clients to send and receive game information through a central server

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