HAILEY BORIEL

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Highly motivated, detail-oriented, and dependable Artificial Intelligence and Decision Making major with data science research and software development experience seeking the opportunity to utilize these skills in the role of a Machine Learning Engineer.

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA **May 2025**

- Candidate for Bachelor of Science in Artificial Intelligence and Decision Making.
- Relevant coursework: Introduction to Machine Learning, Fundamentals of Programming, Statistics Application & Computation, Introduction to Algorithms, Signal Processing.

SKILLS

- **Programming:** Python, MATLAB, C++, basic Julia and JavaScript
- **Database:** MongoDB
- **Languages:** English, French (intermediate)

RELEVANT EXPERIENCE

MIT Buildings Decarbonization, MIT, Cambridge, MA **September 2023-present**
Student Researcher

- Drew upon Machine Learning knowledge to modify regressive model of MIT's building-specific thermal system energy waste in Julia.
- Utilized Python to perform data pre-processing and to create visualizations.

HHC Medical, BioInnovation Institute, Copenhagen, Denmark **June-August 2023**
Simulation Engineer Intern

- Utilized python to create accessible scripts performing image processing on tiled microscopy images including image stitching, normalization, denoising, nuclei detection, and conversion to RGB color space.
- Employed Ansys HFSS to create a fully parametrized 3D model of a dielectric-filled horn antenna and lens.
- Deployed physics knowledge to design dimensions of horn antenna to achieve optimal signal for electroporation.
- Set up analyses and run simulations of electromagnetic waves in antenna using Ansys Electronics Desktop.
- Analyzed simulation results to continuously optimize model and to generate reports.
- Participated in weekly status reports.

KamLAND, MIT, Cambridge, MA **June-July 2022**
Student Researcher

- Scraped data involving activity of X-ray binary star systems from public web sources.
- Utilized Python to organize raw data and create methods to search for neutrino events from detector data which corresponded with high X-ray activity periods.
- Analyzed co-occurrences and data patterns to learn more about the production of neutrino particles.
- Presented findings to lab members at end of summer presentation.

SPISE, Caribbean Science Foundation, Cave Hill, Barbados **June-August 2020**
Participant

- Utilized Python to create a computer game within a team of three.
- Employed C++ and electronics components to construct an inference engine.
- Awarded Top Performer in Computer Programming and Overall Top Female Performer.

SUMMER SCIENCE AND ROBOTICS WORKSHOP, Vieux-Fort Comprehensive Secondary School, Saint Lucia **July 2018**
Participant

- Utilized C++ to program a microcontroller to implement distance sensors, Bluetooth module, and LED display.
- Created an android application to control and receive data wirelessly from electronics set-up.
- Wrote MATLAB scripts to solve linear algebra problems.

LEADERSHIP

Physics Mentoring Program, MIT, Cambridge, MA **September 2022-December 2023**
Mentor

- Tutored underclassmen in classical mechanics and electromagnetics at weekly sessions.
- Advised underclassmen on career decisions and study habits, and supported them emotionally.