

Annie Bryan

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EDUCATION

Massachusetts Institute of Technology (MIT)

B.S. in Computer Science and Engineering

GPA: 4.9 / 5.0

Minors: Spanish, Statistics and Data Science

Courses: Software Construction, Algorithms and Data Structures, Artificial Intelligence, Machine Learning, Computation Structures, Linear Algebra, Differential Equations, Calculus, Probability and Random Variables

Sep 2018 — May 2022

Cambridge, MA

SKILLS

Python, Java, C++, Ruby, MATLAB, HTML, CSS, JavaScript, MySQL, Git, Perforce, Scrum, Kanban

EXPERIENCE

MIT Computer Science & Artificial Intelligence Lab (CSAIL)

Sep 2020 — Present

Undergraduate Research Assistant

Remote

- Collaborating with Toyota to develop certified control, a new architecture for dependable self-driving cars
- Designing the controller and certifier as to exploit the cost gap between finding and checking a solution
- Leveraging techniques such as optical flow and object segmentation with LiDAR point clouds

MathWorks

May 2020 — Aug 2020

Software Engineering Intern

Remote

- Developed full-stack customer-facing web applications using Ruby on Rails and the MVC framework
- Drafted thorough documentation of each project's test plan, requirements, and functional/architectural design
- Generated UI wireframes for new workflows, presented designs to users, and integrated feedback

Universidad Politécnica de Madrid

Jun 2019 — Aug 2019

Data Science Research Assistant

Madrid, Spain

- Explored topics in graph theory with a focus on dynamic phone networks from Senegal using R and Python
- Constructed models around cleaned datasets and compared effectiveness of each model
- Evaluated correlational coefficients between properties including connectivity, transitivity, and reciprocity

MIT Department of Mechanical Engineering

Feb 2019 — May 2019

Undergraduate Research Assistant

Cambridge, MA

- Developed machine learning tools with MATLAB and Python to predict and extend machine lifetime
- Constructed a neural network using stochastic gradient descent and principal component analysis

PROJECTS

COVID-19 Data Analysis

Apr 2020 — Aug 2020

- Cleaned and explored the Johns Hopkins dataset of COVID-19 cases and deaths as an independent project
- Built models to analyze the effects of state-imposed stay-at-home policy on the rate of spread of the virus

Tempo

Mar 2020 — May 2020

- Created a fitness device that plays a song matching a runner's speed and music preferences
- Implemented the back end in C++, Python, and SQL to calculate BPM and make requests to Spotify's API
- Developed a web UI that allows a user to login and view/edit their database of runs or song playlist
- Collaborated with 4 other MIT students, tracked weekly goals, and managed version control with Git

LEADERSHIP

MIT Women's Varsity Volleyball

Aug 2018 — Present

- Devote 20 hours/week, compete in matches during season, communicate strategy, and motivate teammates

IEEE Secretary

Sep 2019 — Present

- Assist the president and VP with logistics, take diligent and organized minutes at all meetings
- Oversee other executive board members and manage annual budget of \$30,000

MIT Committee on Curricula

Sep 2020 — Present

- Collaborate with faculty, staff, and other students to create, revise, or remove undergraduate subjects

MIT Wind Ensemble

Jan 2019 — Apr 2020

- Played second chair clarinet, assisted the rest of the section, demonstrated preparation of music repertoire