

**Curriculum Vitae**  
**Sarah Jabbour**  
**Computer Science and Engineering PhD Student**  
**University of Michigan**  
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## EDUCATION

### University of Michigan, Ann Arbor, MI

*Present*

*Ph.D., Computer Science*

- Advisors: Jenna Wiens, David Fouhey

### University of Michigan, Ann Arbor, MI

*April 2019*

*Bachelor of Science in Engineering in Computer Science*

*GPA: 3.81/4.00*

- Coursework: Intro to Artificial Intelligence, Intro to Machine Learning, Computer Vision, Applied Linear Algebra, Autonomous Robotics, Discrete Mathematics, Intro to Probability

*Bachelor of Business Administration focused in Technology and Operations*

*GPA: 3.81/4.00*

- Coursework: Business Analytics and Statistics, Business Law and Ethics, Advanced Analytics and Statistics, AI for Business, Effective Business Presentations

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## RESEARCH EXPERIENCE

### University of Michigan, Machine Learning for Data Driven Decisions Lab, Ann Arbor, MI

*Research Assistant for Dr. Jenna Wiens and David Fouhey*

*June 2019 – September 2020*

- Developed multi-modal machine learning (ML) techniques to diagnose patients based on imaging data (e.g., chest x-rays) in addition to clinical variables (e.g., laboratory results) from the electronic health record (EHR)
- Developing techniques to mitigate spurious correlations in imaging datasets without prior knowledge of such spurious correlations, leading to better generalizability of ML models
- Explored ways bias can infiltrate datasets through human intervention such as bias effects of patient opt-in consent processes on large hospital datasets

### Ross School of Business, Ann Arbor, MI

*Research Assistant for Dr. Mohamed Mostagir*

*Sept 2017 – August 2018*

- Created MATLAB simulations for learning in networks under a Bayesian inference model to understand how learning happens in networks with different signal distributions combined with varying popularity of network agents
- Used MATLAB and R to analyze Medicare Hospital data from 2014 to 2017 to examine the relationship between changes in Medicare payment plans and hospital prevention of hospital acquired conditions
- Analyzed hospital acquired condition policy effects on hospital culture to aid in the quantitative analysis of Medicare payment plans and how changes in hospital culture may have effects on hospital acquired conditions

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## PUBLICATIONS

### University of Michigan, Ann Arbor, MI

- **Sarah Jabbour**, David Fouhey, Ella Kazerooni, Michael W. Sjoding, Jenna Wiens. *Deep Learning Applied to Chest X-Rays: Exploiting and Preventing Shortcuts*. MLHC, August 2020.

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## WORKSHOP PRESENTATIONS AND SEMINARS

### University of Michigan, Ann Arbor, MI

- Sarah Jabbour, “A Robust Multi-Modal Approach to Diagnosing Acute Cardiopulmonary Conditions”, *Michigan AI Symposium*, October 2019, Poster.
- Sarah Jabbour, “A Robust Multi-Modal Approach to Diagnosing Acute Cardiopulmonary Conditions”, *Michigan Institute for Data Science (MIDAS) Symposium*, November 2019, Poster.
- Sarah Jabbour, “A Robust Multi-Modal Approach to Diagnosing Acute Cardiopulmonary Conditions”, *Center for Healthcare Engineering and Patient Safety (CHEPS)*, November 2019, Poster.

## INTERNSHIP EXPERIENCE

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### **NIKE INC., Portland, OR**

*Software Engineer Intern*

*May 2018 – Aug 2018*

- Developed data visualization desktop application in Electron using JavaScript and HTML for technologies used by NIKE to enable architects to make informed technology investment and divestment decisions using application visuals
- Designed database structure using local storage for data visualization application, minimizing duplication and optimizing retrieval of information used to create visualizations in application

### **Avfuel Corporation, Ann Arbor, MI**

*Marketing Intern*

*May 2016 – Aug 2016*

- Researched customer service and sales techniques to implement online customer service and sales training, resulting in aviation-specific online training modules to help Avfuel branded fixed base operators increase customer satisfaction rates
- Collaborated with fixed base operators in Colorado and Michigan to implement customer loyalty programs and increase transient traffic, increasing number of pilots who choose Avfuel branded fixed base operators over competitors to refuel jets
- Analyzed press release and newsletter data to understand which strategies increase click, open, and read rates among readers, giving Avfuel communications specialists ability to customize future press releases according to insights derived from data

## UNDERGRADUATE PROJECT EXPERIENCE

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### **University of Michigan, College of Engineering, Ann Arbor, MI**

*Autonomous Robotics, Major Design Experience*

*Sept 2018 - Dec 2018*

- Combined passion for music and computer science to build an autonomous drummer that detected tempo from external audio sources to drum with synchronously
- Re-implemented live beat tracking algorithm from research paper to learn the fundamentals of music signal processing, including onset detection and tempo estimation

## LEADERSHIP

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### **Give Merit, Inc., Nonprofit Arm of Merit Goodness, Inc., Detroit, MI**

*Mentor*

*Sept 2017 - Present*

- Lead group discussions for tenth and eleventh grade students, teaching them communication, problem solving, and thought organization skills useful for future professional and academic settings
- Coached students through design of Merit Goodness clothing line collection, resulting in production of their collection for Merit Goodness' fall clothing line
- Coached students through financial planning of fundraising event for FATE student college scholarships

### **Ross School of Business, Ann Arbor, MI**

*Head MBA Business Analytics Tutor*

*Sept 2017 – October 2020*

- Managed scheduling of up to 15 tutors for 6 weekly tutoring sessions
- Tutored 2 to 4 hours per week in probability and statistics
- Ensured students fully understand the application of statistics in a variety of business contexts such as finance, marketing, operations, and strategic management

### **University of Michigan Pompon Team, Ann Arbor, MI**

*Executive Board Member, Fundraising Chair*

*Sept 2014 – Sept 2016*

- Organized annual t-shirt fundraiser and sponsorship fundraiser, raising \$3,500 to help pay for High Kick Statewide Competition in November 2015 as well as aid in practice venue costs
- Worked with team executive officers and community members to determine fundraising strategies, decreasing out of pocket costs for team members as much as \$100 per season

### **M-Lift Club, Ann Arbor, MI**

*President*

*Dec 2017 – May 2019*

- Led group discussions on health and fitness related topics such as nutrition, the principles of strength training, and navigating strengths sports as a female in the gym
- Organized small group training sessions, assisting women and novice weightlifters with powerlifting technique to increase confidence in the gym

## SKILLS

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*Computer:* C++, Python, JavaScript, HTML, R, MATLAB

*Languages:* Arabic (Native Speaking), English (Native Speaking)