# Ruchir Aggarwal

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| **CONTACT INFORMATION** | 3855 Greenbrier Blvd Apts  Ann Arbor, MI 48105  *Mobile:* (+1) 765-337-6648  *E-mail:* **aggarwr@umich.edu**  *LinkedIn:* **https://www.linkedin.com/in/aggarwr** |

**OBJECTIVE**

Results-oriented college graduate with a background in performing scientific research interested in gaining an internship position as a Deep Learner

**EDUCATION**

**University of Michigan, Ann Arbor, USA**                                                             Exp. 2020

M.S. in Computer Science
Department of Computer Science and Engineering
Relevant Coursework: Advanced Artificial Intelligence, Deep Learning,
Advanced Data Mining, Database Management Systems

**Purdue University, USA**                                                                                      May 2018

B.S. in Computer Engineering
Dean's list (All Semesters), 3.72 / 4

**INTER-NATIONAL EDUCATION EXPERIENCE**

**National University of Singapore, Singapore**                                   Aug 2017 - Dec 2017

Semester Exchange Program
Department of Electrical and Computer Engineering

**TECHNO-COMMERCIAL SKILLS**

**Advanced Mathematics And Statistical Proficiency:**

Advanced Calculus, Linear Algebra, Verification Forecasting, Advanced Regression Analysis,
Exploratory Data Analysis, Significance Testing

**Lunix Proficiency:**

Shell Scripting, Parallel Processing, Big Data Management and Analysis

**Programming:**

**Advanced:** Python, C, HTML
**Intermediate:** SQL, CSS, C++, Assembly, System Verilog
**Intro:** Java, C#, R

**IDE/Text Editors:**

MATLAB, PyCharm, IntelliJ IDEA, Xamarin, Sublime Text, Atom, Notepad++, Brackets
Mentor GRAPHICS Questa Sim, Keil MDK 4, Xilinx Vivado 2015.2, Eagle CAD

**WORK EXPERIENCE**

**Undergraduate Research Assistant**                                                 Jan 2018 - May 2018

**Water Resources And Ecohydrologic Engineering Group**

**Purdue University, West Lafayette, IN**

- Designed, programmed and implemented a system to evaluate the impact of changing climate on hydro-climatology and nutrient loadings in watersheds of Lake Erie
- Implemented different data analysis and visualization methods in Python
- Automated scripts for parallel runs on university clusters
- Completed 6 months of expected work in 4 months and co-authored the resulting manuscipt

**Undergraduate Teaching Assistant**                                                Jan 2018 - May 2018

**Electronic Devices And Design Laboratory**

**Purdue University, West Lafayette, IN**

- Provided assistance to students in laboratory exercises and experiments
- Supervised 24 students at a time to ensure their adherence to appropriate laboratory safety procedures and techniques
- Planned lessons and assignments, led discussion sections, graded labs and quizzes

| RESEARCH<br>EXPERIENCE | **Graduate Research Assistant** | Oct 2018 - Present |
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**University of Michigan, Ann Arbor, MI**

- Analyze the development, coordination, and success for social movements of varying scales under different data collection and labeling schemes
- Propose and develop methods for optimizing data collection strategies for Twitter
- Model determinants of protest participation and movement success using curated data
- Create unit test framework for the system

**Undergraduate Research Fellow**                    May 2017 - Aug 2017

**Purdue University, West Lafayette, IN**

- Co-ordinated with **Prof. Margaret Gitau** to create **WQUICK (Water Quality Index Calculator)**, an application that calculates and presents a visual analysis of Water Quality Index data
- Applied regression techniques to find the relation of water quality indices over time
- Reduced runtime of the application by 6 times through vectorization of data
- Created and maintained documentation for the application

PUBLICATIONS  **Peer Reviewed Manuscripts/Articles:**

- Mehan, S., **Aggarwal, R.**, Gitau, M.W.*, Flanagan, D.C., Wallace, C., and Frankenberger, J. (2019). Assessment of hydrology and nutrient losses in a changing climate in a subsurface-drained watershed. Science of the Total Environment. (under review)

VOLUNTEER  **Clear Lung Project (M-Heal)**                    Sept 2018 - Present
EXPERIENCE
**University Of Michigan, Ann Arbor, MI**

- Analyze large sensor datasets to understand how gait changes in Parkinson's disease patients
- Create machine learning models with Python and scikit-learn to predict the likelihood of Parkinson's disease
- Replicate code to predict Pneumonia in children

**Design Lead**                                        Jan 2016 - May 2016

**Engineering Projects In Community Service, Camp Riley Team**

**Purdue University, West Lafayette, IN**

- Chaired a team of 7 to deliver a sailboat to be used at *Camp Riley, IN* by children with disabilities to enhance their learning experience
- Worked on proper mounting of the motor to minimize the probability of injuries
- Improved my knowledge of systems and signals and their real-life applications

AWARDS  **Undergraduate Scholarships:**
AND
HONORS
- Summer Undergraduate Research Fellowship                    2017
- Eli Shay Electrical Engineering Scholarship                 2017
- Walter V. Jones Memorial Scholarship                        2016
- Charles W. Brown ECE Scholarship                            2015