

# CHAITANYA VARMA

Flat 8B, 8/2A Alipore Park Road, Kolkata, West Bengal - 700027, India. ◇ (+91) 900 834 6070  
chaitanya.varma@live.in ◇ <https://github.com/cvarma21/> ◇ <https://www.linkedin.com/in/cvarma/>

## EDUCATION

**Manipal Institute of Technology, Manipal**

*Aug 2015-present*

B.Tech. Majoring in Computer Science and Engineering with a minor in Intelligent Systems. Final year undergrad.

## RESEARCH PUBLICATIONS

- [1] Sawant, O & Varma, C (2018, August 17-18) '**A Robust Approach for Face Detection and Recognition**' - 6th International Conference on Innovations in Computer Science & Engineering. Hyderabad, India : Springer (Accepted)
- [2] Varma, C (2018, July 10-12) '**An Enhanced Algorithm for Variable Reordering in Binary Decision Diagrams**' - 9th International Conference on Computing Communication and Networking Technologies. Bangalore, India: IEEEExplore (Accepted)
- [3] Varma, C (2018, May 17-18) '**Collaborative Filtering Recommender Systems for Music Recommendation**' - IEEE International Conference on Recent Trends in Computational Engineering and Technologies. Bangalore, India : IEEEExplore
- [4] Varma, C & Sawant, O (2018, April 2-5) '**An Alternative Approach to Detect Breast Cancer Using Digital Image Processing Techniques**' - IEEE International Conference on Communication and Signal Processing. Chennai, India : IEEEExplore
- [5] Varma, C (2018, March 1-3) '**Performance Analysis and Challenges of The MapReduce Framework in Big Data Analytics**' - 2018 IEEE International Conference on Current Trends towards Converging Technologies. Coimbatore, India : IEEEExplore
- [6] Varma, C (2018, March 1-3) '**A Study of The ECC, RSA and The Diffie-Hellman Algorithms in Network Security**' - 2018 IEEE International Conference on Current Trends towards Converging Technologies. Coimbatore, India : IEEEExplore

## RESEARCH AND WORK EXPERIENCE

**Indian Institute of Technology Kharagpur**

May 2018 - June 2018

*Summer Research Fellow - Project funded by Microsoft Research India*

*Research Area : Artificial Intelligence, Formal Methods and Verification*

- Worked on a rule based system for a health care application under the guidance of Professor and Head of Computer and Informatics Center, IIT Kharagpur, Prof. Jayanta Mukhopadhyay under the summer fellowship program sponsored by Microsoft Research India.
- Designed and implemented the various functionalities of the rule based system : add/delete: parameters, conditions, clauses, predicates, rules for the rule-based system.
- Integrated the state of the art Microsoft Z3 theorem prover with the rule-based system to check for the consistency of rules in the system using the SMT-LIB 2.0 Standard.
- *Github* : <https://github.com/cvarma21/rulebase>

**Indian Institute of Technology Bombay**

May 2017 - July 2017

*Summer Research Intern*

*Research Area : Machine Learning, Formal Methods and Verification*

- Worked under the guidance of Full Professor and Head of CFDVS, Prof. G. Sivakumar of the Computer Science Department at the Centre for Formal Design and Verification of Software(CFDVS), IIT Bombay on a project titled Simulations for Logic.
- Project involved building a interactive teaching tool for learning and exploring Binary Decision Diagrams (BDDs) using any web browser as client. The application could also adjust variable ordering of the BDD as per the requirement of the learner.
- Built the application in Python and used a micro web framework in Python - Flask, for the back-end development of the web application. Used the application to test optimal variable orderings for BDDs.
- *Research Publication* - *An Enhanced Algorithm for Variable Reordering in Binary Decision Diagrams*
- *Github*: <https://github.com/cvarma21/AI-HTML5>.

**Marketing Technology Intern**

- Worked under the guidance of Prof. Sameer Mathur, IIM Lucknow on an academic internship.
- Learnt how to craft better campaigns, programs, and customer experiences that effectively leverage software and data.
- Created an original marketing plan for a novel Android application - 'i.heart.cabs' to be released on the Google Play Store.

**ITC Infotech**

June 2016 - July 2016.

**Project Trainee, Data Science**

- Identified and analyzed key factors and trends leading to damaged and destroyed (DND) products of ITC Foods and Personal Care Product categories using a weighted score methodology.
- Visited wholesale distributors in the south Kolkata region to understand the issues responsible for DND.
- Collaborated the trends which emerged from the data with the findings from the wholesale distributor visits to provide a strategic actionable with recommendations to reduce DND.

**ACADEMIC PROJECTS**

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**An Alternative Approach to Detect Breast Cancer Using Digital Image Processing -**

Examined digital mammograms using texture segmentation to detect initial phase tumors.

*Result - Publication - Alternative Approach to Detect Breast Cancer Using Digital Image Processing Techniques***Collaborative Filtering Recommender Systems for Music Recommendation -**

Analysed the collaborative filtering technique for music recommendation systems and proposed a method to provide recommendations to listeners which are accurate and relevant to the user.

Project was based on the Kaggle One Million Song Dataset Challenge to predict listening history of users.

*Result - Publication - Collaborative Filtering Recommender Systems for Music Recommendation***TECHNICAL SKILLS**

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<b>Programming</b>	Python, C, C++, Java, Linux-Shell
<b>Web Development</b>	HTML, CSS, JavaScript, PHP, MySQL, Django, Flask
<b>Software &amp; Tools</b>	MATLAB, Git, Wireshark, L <sup>A</sup> T <sub>E</sub> X, Excel

**POSITIONS OF RESPONSIBILITY**

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**Class Representative**

Semesters 3 and 4, 2016 - 2017

*Manipal Institute of Technology, Manipal*

- Elected as the Class Representative for Semesters 3 and 4 in Manipal Institute of Technology, Manipal.

**CERTIFICATIONS AND MASSIVE OPEN ONLINE COURSES**

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**Programming -**

An Introduction to Interactive Programming in Python (Part 1) - Rice University.

An Introduction to Interactive Programming in Python (Part 2) - Rice University.

**Entrepreneurship -**

Entrepreneurship 1: Developing the opportunity - University of Pennsylvania.

Entrepreneurship 2: Launching your Start-Up - University of Pennsylvania.

Entrepreneurship 3: Growth Strategies - University of Pennsylvania.

Entrepreneurship 4: Financing and Profitability - University of Pennsylvania.

**Finance, Risk Management, Marketing and Business Analytics -**

Introduction to Corporate Finance - Wharton School of Business.

Introduction to Financial Markets - Indian School of Business.

Portfolio and Risk Management - Indian School Of Business.

Introduction to Marketing - Wharton School of Business.

Customer Analytics - University of Pennsylvania.

**Self Improvement -**

Learning How to Learn - University of California, San Diego

*All certificates available on LinkedIn*