

# KUSHAL BATRA

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## EDUCATION

- **NORTH CAROLINA STATE UNIVERSITY, RALEIGH**  
Master of Computer Science (*Presently*)

May 2019 - Jan 2021 (*expected*)  
**CGPA :3.89**

- **SRM UNIVERSITY, KATTANKULATHUR**  
B. Tech in Computer Science and Engineering

July 2015 - August 2019  
**CGPA :4**

## WORK EXPERIENCE / POSITIONS OF RESPONSIBILITY

- **Internship - VALVOLINE CUMMINS INDIA PRIVATE LIMITED** (*Dec 2018 - Feb 2019*)  
Maintained and developed Salesforce platform for the company's client. It was like a CRM platform developed using inbuilt salesforce tools and some coding in Apex.
- **Internship - WIPRO PRIVATE LIMITED** (*Jun 2017 - Jul 2017*)  
Implemented SAP ABAP Reports and Smartform. Worked on all 7 types of reports: Interactive and Classical Report. Also worked on creating customizable objects for the client using C++.

## PROJECTS AND PAPER PRESENTATIONS

### SOFTWARE DEVELOPMENT:

- Designed a Library Management System using CSS, JavaScript, JSP and XML.
- Worked on embedded software systems (Raspberry Pi and Arduino) to create a lap counter for a hybrid vehicle team.
- Project on dummy ATM machine using graphics, data structures, networking and authentication using file system in C++.
- Working with the software security software's such as Fortify, Coverity, Snyk, Zap, Defensics, OWASP Dependency

### ROBOTICS:

- Worked on Robotic arm (KINOVA) to scan a construction site and further track the progress of construction and analyse the quality of construction materials by creating a small 3D model.
- Experience working with ROS
- Experience working with gazebo, MoveIt and Rviz.

### MACHINE LEARNING and COMPUTER VISION:

- Working on ROS systems to create a miniature model of a building for quality inspection purposes.
- Using computer vision and machine learning created a prototype of a driverless car, using a truck simulator game. (Check the GitHub link for project).
- Done research using CNN to detect cancerous tissue in breast using CT scan.
- Worked on Computer vision to detect ear using features - tragus and helix portion.

### Research Papers:

- Published a paper in IEEE conference on "Classification of Mammogram Images: A Survey".
- Published a paper in Springer "Breast Cancer detection using CNN on Mammogram Images".
- Research in biometrics field - Ear detection and Authentication research paper - "Feature Extraction of Human Ear based on enhanced Active Contour method".

## TECHNICAL SKILLS

- **Languages:** C++, Python, Java, ROS, TensorFlow, OpenCV and PostgreSQL
- **Web Development:** HTML, JavaScript, CSS, XML and PHP
- **Operating System:** Windows and Android
- **Certifications:** Neural Networks and Deep Learning, R Programming and Python Series

## COURSES OF INTEREST

**Courses already taken Semester:** Quantum Computing, Graph Theory, Software for Robotics.

**Courses this Semester:** Software Engineering, Algorithms and Analysis and Software Security.

**Interests:** Data Structures, Algorithm Analysis, C++ Programming, Computer Vision and Computer Architecture.

## EXTRA CURRICULAR ACTIVITIES

### COMPETITIVE PROGRAMMING / HACKATHONS:

- Active participant in competitive programming.
- Qualified till 3rd round in Google Code Jam 2017 and 2018.
- Received 3rd prize in SRM Hackathon.
- Participated in IET Hackathon.

### CLUBS AND SPORTS:

- Team member of 1.618 (Hybrid vehicle team) at SRM.
- Working with RAVE! NCSU event planners. (Part time job)
- Taught middle school students for NGO - Teach for India.
- Represented soccer club at inter-club soccer championship.

**Interests:** Anime, Soccer, Poker and CS:GO