

# Samrudh Sharma

Software Engineer

Leeds, United Kingdom  
+447748767610  
samrudh3637@gmail.com  
linkedin.com/in/samrudhsharma  
github.com/samrudhsharma

## Education

### M.Eng in Electronics and Computer Engineering

Sep 2015 - Jul 2019

University of Leeds, United Kingdom

Second Year result : 2:1 (68%)

- Key modules: Machine Learning, Distributed Systems, Data Structures & Algorithms, Design Patterns, Computer Architecture, and User Interfaces

### Artificial Intelligence Nanodegree

Aug, 2017 - Present

Udacity

- Key modules: Informed and Uninformed Search strategies, Game Theory, Simulated Annealing, Constraint Satisfaction, Logic & Reasoning, Planning, Probability, Bayes Nets and Inference in Bayes Nets

### Machine Learning, Stanford University

May - July 2017

Coursera

- Key modules include: Regression, Classification, Neural networks, Support Vector Machines, Clustering, Principal Component Analysis and Recommender Systems

## Work experience

### Software Engineering Intern

Jun 2017 - Aug 2017

Tata Consultancy Services, India

- Designed, developed and tested an Android Security app-that helps people in distress by sounding an alarm, sends a message to the emergency contacts with the user's GPS location and alerts the emergency services
- Gained experience with Android development, UX design, threading, networking and location based API's

## Skills

	Proficient	Intermediate
Languages	Java, Python, C	Javascript, C++
Frameworks	Android, MatLab, Numpy	React.js, Redux, Pandas, Bootstrap
Databases	MySQL	
IDE	Eclipse, Xcode, MatLab, PyCharm	

## Engineering Projects

### 3rd Year Group Project (Ongoing)

Currently developing an autonomous pick and place robotic arm. Features include:

- Image recognition and classification using Convolutional Neural Networks
- Hardware includes two sets of grips, a pinch and pick grip depending on the type of object

## 2nd Year Group Project

Developed a MOOC portal akin to Coursera. The system included a web and an android mobile application. As part of this project, I:

- Managed a team of five, arranging SCRUM meetings, weekly review sessions, assigning individual tasks to compliment each member's abilities and tracking project deadlines
- Set up the infrastructure for Android development and developed the user experience for the app
- Designed the database schema and the data exchange contract between the frontend and backend

### URL Minifier

Developed a web app for URL Minification in Java. For this webapp, I:

- Developed the UX with HTML, Bootstrap and JS
- Implemented the server side with Spring for its MVC Framework and Dependency Injection container. Utilised a Base 62 encoding algorithm to map long strings to short strings
- Database through JDBC

### Isolation

- Created an adversarial search AI agent to play the game of Isolation. The agent employs Minimax search algorithm with Alpha-Beta Pruning and Iterative Deepening
- Currently testing the performance of the agent with custom heuristics at different stages of the game, exploiting symmetry and move reordering

### Pacman

- Created an AI agent to play Pacman using different search techniques, namely - BFS, DFS, Uniform Cost Search, Greedy Best First Search and A\* Search
- Compared the performance of A\* and Greedy Best First Search with multiple heuristics

### Sudoku

- Created an AI agent to solve Sudokus using constraint propagation and search techniques
- Taught the agent to solve Diagonal Sudokus and use the Naked Twins advanced strategy

## Interests

---

### CompSoc (Event Organiser)



I've organised and run a number of events in collaboration with Coder Dojo for high school students interested in learning to code. This gave me the opportunity to share my passion of coding with them. Furthermore, I have also helped organise coding competitions and bi weekly tech talks.

### Course Rep



I've had the opportunity to mentor first and second year Electronics and Computer Engineering students. I am particularly proud of this role as I am in a position to help students integrate into the university.