

# Deb Banerji

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## EDUCATION

**Georgia Institute of Technology**, Atlanta, GA

**August 2015 - Present**

- Bachelor of Science in Computer Science - GPA: 4.00/4.00

Expected Graduation: May 2019

## SKILLS

**Languages:** C, C++, Java, Python, Assembly, HTML, CSS, JavaScript, TypeScript

**OS:** Linux, Windows, macOS

**Technology:** Android, Git, Maven, Bash, Spring, Flask, Node.js, Electron, MongoDB, Solr, Firebase, Angular, Bootstrap

## EXPERIENCE

**Teaching Assistant - Georgia Institute of Technology**

**August 2016 - Present**

- Data Structures and Algorithms - Java**

- Designs and grades exams for class of over 500 students
- Designs, grades homework assignments, writes unit tests for grading submissions - *Java, JUnit*
- Teaches weekly 90 minute recitations, covering material taught in the class
- Designs practice assignments to help students prepare for exams
- Holds 3 hours of office hours weekly, answering questions and helping students with classwork
- Built GUI based grading tool to automatically run tests on student submissions and perform static code analysis, flagging suspicious code - *TypeScript, Java, Electron, Angular*

**Software Engineering Intern - Site Team - NCR Corporation**

**May 2017 – August 2017**

- Developed site service with 6 other engineers in an agile development environment
- Implemented RESTful API endpoints for site service - *Java, Spring*
- Wrote code for testing, querying, saving data to Solr database - *Java, Spring, Solr*
- Wrote behavior driven tests to cover code functionality - *Java, Spring, Cucumber*

**Software Engineering Intern - Yobi Technologies**

**March – August 2015, June – August 2016**

- Extreme weather prediction tool** - for use by central government in northeast India to issue flood warnings to residents - used in 4 states with combined populations of over 20 million
  - Implemented tool to map predictions from global climate models to flood prone locations and send SMS alerts to residents on a per location basis - *Flask, JavaScript, Python*
  - Wrote scripts to periodically update weather data in the database - *Python*
  - Built Android application with GPS integration to streamline installation of weather stations - *Java*
- Quadcopter for surveying agricultural land** - for use by the India office of Columbia University Water Center - currently in use in Haryana, India
  - Built Android application to control quadcopter through either direct signals or GPS coordinates - *Java*
  - Wrote controller software for quadcopter to follow GPS coordinates, log flight data - *C++, Arduino*
  - Worked with team of 6 on frame to reduce cost of hardware by 30%

**Undergraduate Researcher - Georgia Institute of Technology**

**January – May 2016**

- Simulator to calculate power consumption of mobile device RAM**
  - Developed simulator to test memory management algorithm - *Python*
  - Implemented system to simulate memory with multiple sections - *Python*

## PROJECTS AND COMPETITIONS

**Google Games ATL 2017 programming competition** - Winning Team

- Won competitive programming, puzzle solving competition

**'Mapingo' - Location based order tracking application** - Runner Up, HackEmory 2017

- Built Android application for submission of food orders and tracking of users using GPS - *Java*
- Created web interface for setting up points of sale, tracking orders and estimating time of arrival based on location and movement speed of users - *Angular, JavaScript*

**‘Memento’ - Image compression algorithm** - Winner, Best Indoor Hack, HackGSU 2017

- Implemented algorithm for separation of text from images for more efficient storage - *Python, OpenCV*
- Built web interface for uploading, downloading, compressing and decompressing images - *Angular*

**‘Edu-Bae’ - Customized test generation algorithm** - Third Place Winner, Georgia Tech Appathon 2016

- Implemented algorithm for custom generation of exams for individual students - *JavaScript*
- Built web interface for entering student data, creating questions, generating exams - *Angular, JavaScript*

**‘WingBuddy’ - Home surveillance, automation system** - Winner, HackEmory 2016

- Programmed Arduino to interpret sensor data, log room status to server and communicate with Android application over network - *C++*
- Programmed Raspberry Pi to automatically play music on speaker system based on sensor data - *Python*
- Built Android application to view live feed from sensors, connect with other users in network - *Java*

**‘CS²’ - Community Service Search Application** - Runner Up, Georgia Tech Community Service Hackathon 2016

- Built Android application with GPS and map integration to help users find and organize community service events in their area - *Java*

**‘Labyrinth’ - Multiplayer maze game** - Finalist, SwampHacks 2016

- Wrote game logic for, designed three dimensional environments for multiplayer game - *C#, Unity*

**‘Teeny Chat’ - Social network with profanity tracker** - Winner, HackGTeen 2015

- Created routes on server to handle user requests, analyze comments for profanity - *JavaScript, Node.js*
- Designed front-end user interface with chat functionality, Facebook login integration - *JavaScript*

**‘Syncloud’ - Synchronized audio streaming application** - Runner-Up, Georgia Tech Appathon 2015

- Implemented RESTful API and Android application for streaming synchronized audio to multiple users, handling user requests to add tracks to queue - *Java, Node.js, SoundCloud API*

## **LEADERSHIP AND INVOLVEMENT**

**Organizer, Competitor** - *World Cube Association*

**February 2014 - Present**

- Nationally ranked Rubik’s Cube speed solver
- World Cube Association competition organizer - organized multiple competitions with over 100 competitors

**Finance Park Volunteer** - *Junior Achievement of Georgia*

**June 2017**

- Mentored middle school children during the course of a simulation, teaching them how to manage their finances in the real world

**Information Technology Volunteer** - *Indian National trust for Art and Cultural Heritage*

**June 2014**

- Digitized and organized information pertaining to local monuments in collaboration with Google Culture