Deb Banerji

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EDUCATION

Georgia Institute of Technology, Atlanta, GA   August 2015 - Present
- Bachelor of Science in Computer Science - GPA: 3.96   *Graduating May 2019*

SKILLS

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

OS: Linux, Windows, macOS

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

EXPERIENCE

Teaching Assistant - *Georgia Institute of Technology*   August 2016 – Present
- **Data Structures and Algorithms, Design and Analysis of Algorithms**
  - Grading exams, homework assignments for class of over 300 students
  - Leading weekly recitations, holding office hours to cover material taught in class
  - Designed extra practice assignments to help students prepare for exams

  Intelligent Grading Tool - *TypeScript, Java, Electron, Angular*
  - Built GUI based grading tool for student code to reduce errors, increase grading speed by a factor of 3
  - Designed grading tool to have support for multiple platforms and languages
  - Wrote integrations with unit test frameworks to automatically find errors
  - Wrote algorithms to perform static code analysis and flag suspicious code

Software Engineering Intern - Internationalization Team - **Facebook**   May 2018 – August 2018
  - Created tool to determine to track and determine the translation status of strings - *Hack*
  - Implemented functionality for determining and linking to relevant project and source information
  - Created responsive frontend for displaying string information - *React*

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*

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PROJECTS AND COMPETITIONS

Google Games ATL 2017 programming competition - Winning Team
- Won competitive programming, puzzle solving competition

bigocheatsheet.io
- Created website for extensive documentation of time complexities of data structures and algorithms
- Implemented using dynamic tables to allow for a higher level of detail and accuracy than similar websites

'Infinity Gauntlet' – AR based treatment – **Winner, Faculty Choice Award, Best IOT Hack, HackGSU 2018**
- Implemented Android application for treating phantom limb syndrome using augmented reality – *Unity, ARCore*
- Created portable glove mounted system integrated with Myo Armband to read user inputs and wirelessly transmit information to treatment application – *Python, Raspberry Pi, Myo*

'Sports DJ' – Intelligent playlist creation – **Finalist, Get a Move On Hackathon 2018**
- Created application for analyzing music and creating playlists tailored for exercise – *Node.js, Spotify API*
- Implemented web tool for visualizing playlist data – *JavaScript, D3.js*

'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, HackGTeeny 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