# ADVITYA CHHABRA

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## TECHNICAL SKILLS

**Languages:** C++, JavaScript, TypeScript, C, Python, Java, Swift, HTML/CSS
**Frameworks:** React, Redux, Node, Express, MongoDB, NLTK, SpaCy ARKit
**Tools:** AWS, Heroku, Docker, Git, Bash, Google Cloud Platform, Twilio

## WORK EXPERIENCE

**D2L Labs,** Software Developer 05/2019 - 08/2019

- Developed a note-taking/flashcard web application using React, Redux and TypeScript
- Programmed the functionality to add various tags and filter through notes from scratch
- Implemented an efficient intersection algorithm to allow users to draw and erase on PDFs
- Devised an NLTK algorithm in Python to validate question quality with an accuracy of **93%**
- Programmed a schema migration script to transfer data in MongoDB with **0** system downtime
- Refactored database design to write cleaner CRUD operations and increase query speed by **30%**
- Developed RESTful APIs with Express and Node to serve and cache user-generated content

## SELECTED PROJECTS

**Auxilium,** *Javascript/Hardware* 09/2019

- Built an SMS based service using the Twilio API to register micro financing for India's grey economy
- Integrated AWS Rekognition and Stellar blockchain in a React frontend to secure transaction history
- Constructed an ATM with a Raspberry PI, IR sensors, and servo motors to dispense microloans
- Finished **Top 10** out of 250 teams and won the Social Good and Twilio challenges at PennappsXX

**Realm,** *Javascript/Swift/Python* 08/2019

- A program that uses voice commands and gesture tracking to create interactive presentations
- Integrated the DynamoDB, S3, Lex and SageMaker AWS APIs for speech and image detection
- Leveraged a physics engine to track hand movements and display real-time drawing animations
- Finished **Top 10** out of 80 teams and won the AWS challenge at HackThe6ix

**FrameAR,** *Swift/Javascript/Kotlin* 06/2019

- Created a version control system where users can track live commits and diff 3D models in AR
- Implemented a Kotlin server to track comments & branches and display them on a ReactJS web app
- Programmed an iOS app in Swift to render, resize and rotate 3D models in AR
- Won **1st place** out of 50 teams and the STDLIB challenge at EngHacks

**Density,** *C++/Javascript/C* 05/2019

- Used ESP8266 wifi modules to create ad-hoc mesh network to analyze people densities over an area
- Devised a triangulation algorithm, accurate to **0.5 feet**, using the Monte-Carlo estimation in C++
- Leveraged the HeatmapJS API with WebSocket payload data to visualize data on a ReactJS front-end
- Won **3rd place** out of 80 teams and the BMO challenge at RUHacks

## EDUCATION

**University of Waterloo** Bachelor's of Software Engineering Anticipated 2023