

# ABHISHEK BABU

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Inquisitive and detail-oriented computer science student with strong foundations in application engineering, computational mathematics and machine learning, along with extensive internship and project experience building well-tested and functional applications. Seeking to use proven engineering skills to solve unique, large-scale and highly complex technical problems.

## EXPERIENCE

### Lead Software Engineer

Cledge (cledge.org)

June 2021 – Present

Redmond, WA

- Creating a web platform to democratize personalized college counseling
- Building the backend framework for user profiling and the **content recommendation algorithm** using Flutter and a NoSQL Cloud Firestore database on Firebase
- Developed database management consoles in Node.js and React.js, resulting in a **75% reduction in data entry time** for content developers
- Responsible for leading the engineering team in an Agile environment and prototyping the internal alpha version of the MVP
- Picked up by **Microsoft for Startups** in July 2021

### CodeLabs Intern

CodeDay

July 2020 – August 2020

Remote

- Built a **resume classification platform** to predict job categories of resumes using natural language processing techniques in Python
- Implemented a data processing pipeline in TensorFlow with Natural Language Toolkit (NLTK) to extract meaningful content from resume text
- Developed a multiclass **convolutional neural network** to classify processed resumes, achieving **87% test accuracy**
- Integrated the data processing pipeline and neural network in a Node.js and Express.js web server deployed on Heroku

### Software Engineer Intern

Tata Consultancy Services

August 2019 – September 2019

Bellevue, WA

- Developed a .NET Core cross platform application with C# on a Raspberry Pi 4 to snapshot a conference room at regular intervals and gain insights into conference room usage throughout the work day
- Leveraged Azure Cognitive Services' Computer Vision API and Face API for **human detection** and **facial recognition** analysis on snapshots
- Populated an Azure Table Storage key-value store and an Azure Blob Storage data lake with time-stamped analysis results and snapshots
- Implemented offline human detection with OpenCV Haar Cascade classifiers to optimize API calls, **reducing application cost by 90%**

## PROJECTS

SpotiViz (spotivizual.herokuapp.com)

July 2020 – Present

- Developing a web application for users to analyze their Spotify listening data across variable timeline ranges using the Spotify Web API
- Leveraging Flask and Python to build the web server and framework for user authentication and data processing, and Bootstrap to build the UI

ReadAct (DubHacks 2020)

October 2020

- Developed a Google Chrome extension that parses text from articles read by the user to **analyze political bias** using the Bipartisan Press API
- Leveraged the Azure Text Analytics API to extract entities and key phrases from articles and integrated the WeVote API to provide information about politicians and measures referenced in the articles in an extension popover
- Built the user interface using Bootstrap and D3.js

## EDUCATION

### M.S. in Computer Science

University of Washington, Seattle

September 2021 – June 2022 (Expected)

– Combined B.S./M.S. Program in CSE

– **Selected Graduate Coursework:**

- Machine Learning for Big Data (Apache Spark & Apache MLlib)
- Machine Learning (PyTorch & NumPy)

### B.S. in Computer Science

University of Washington, Seattle

September 2018 – June 2021

– **GPA:** 3.97/4.00

– Data Science Option & Minor in Mathematics

– **Honors and Awards:**

- Su Family Endowed Scholarship (2020-21)
- Microsoft Endowed Scholarship (2019-20)

– **Selected Undergraduate Coursework:**

- Algorithms | Data Structures & Parallelism
- Database Systems Internals (SQL DBs)
- Data Management (SQL & NoSQL DBs)
- Data Visualization (D3.js)
- Computer Networks | Computer Security
- Systems Programming (C++ & C)
- Discrete Math | Probability & Statistics
- Advanced Linear Algebra | Linear Analysis

## SKILLS

### Languages

Python Java JavaScript C# C++  
Dart MATLAB C HTML CSS

### Data Science

Apache Spark PyTorch scikit-learn  
Apache MLlib OpenCV TensorFlow  
Keras NLTK Matplotlib Jupyter

### Cloud & Databases

Firebase Microsoft Azure Heroku  
Google Cloud Platform SQL/NoSQL

### Web & App Development

React.js Express.js Node.js Flask  
Flutter D3.js jQuery Bootstrap