

# 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)** 📍 Redmond, WA 📅 Jun 2021 – Present

- Spearheading the engineering team in an Agile environment to create a web platform that democratizes personalized college counseling
- Built the user profiling functionality and a heuristic content recommendation algorithm using Flutter and a Cloud Firestore database on Firebase
- Developed database management consoles using Node.js and React.js, resulting in a **75% reduction in data entry time** for content developers
- Built a Python data pipeline using Apache Spark to populate an Azure Cognitive Search Index with data from the College Scorecard dataset
- Built an automated Python web scraper using Selenium to scrape non-copyrighted college campus images from Google Images
- Cledge was picked up by **Microsoft for Startups** in July 2021

### CodeLabs Intern

**CodeDay** 📍 Remote 📅 Jul 2020 – Aug 2020

- 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** 📍 Bellevue, WA 📅 Aug 2019 – Sep 2019

- 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 the application cost by 90%**

## PROJECTS

**SpotiViz** (spotivizual.herokuapp.com) 📅 Jul 2020 – Aug 2021

- Developed a web application for users to analyze their Spotify listening data across variable timeline ranges using the Spotify Web API
- Leveraged 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) 📅 Oct 2020

- Developed a Google Chrome extension that parses text from articles read by the user to analyze political bias using the Bipartisan Press API
- Extracted key entities from article text using Azure Text Analytics and used the WeVote API to fetch and display information about politicians and measures in an extension popover built using Bootstrap and D3.js

## EDUCATION

### M.S. in Computer Science

**University of Washington**

📅 Sep 2021 – Jun 2022 📍 Seattle, WA

- 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**

📅 Sep 2018 – Jun 2021 📍 Seattle, WA

- **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)
  - Networking | Data Visualization (D3.js)
  - Systems Programming (C++ & C)
  - Probability & Statistics | Computer Security
  - Discrete Math | Advanced Linear Algebra

## 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 pandas

### Cloud & Databases

Firebase Microsoft Azure Heroku  
Google Cloud Platform SQL/NoSQL

### Web & App Development

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