

# Karan Singla

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Github: [github.com/karansingla06/](https://github.com/karansingla06/)

## SUMMARY OF SKILLS AND EXPERIENCE

- **2.5+ years of full-time Software Development** experience, including 1.5 years in Artificial Intelligence
- Languages: Python, Java, JavaScript, C++, HTML/ CSS
- Cloud Services: Microsoft Azure
- Frameworks/Libraries: Django, React, TensorFlow, Spark, MLlib, Pandas, Matplotlib, Seaborn, Git, Docker, Nltk, Numpy, BeautifulSoup, Jupyter Notebook, Keras
- Databases: Mongo, MySQL
- OS: Linux, Windows
- Experienced with SDLCs, Agile, Waterfall methodologies, Testing and Production deployment

## EDUCATION

**Master of Applied Computing** at University of Windsor (UoW) with **GPA: 91** 2019 - Present  
**Bachelor's in Computer Science** from JIIT, Noida, India 2013 - 17

## WORK EXPERIENCE

**Senior Software Developer** at UST Global Mar 18 - Jul 19

Intelligent Computing Environment (ICE): UST's Natural Language Processing platform.

- Microservices based pipeline for data processing, named entity recognition, predictive models
- Integration of mitie, crf, spacy, corenlp models for default and custom entity recognition, involving tagging, training, predicting, pos tagging
- Used Python framework Falcon with MongoDB to create all the RESTful services, in an Agile-scrum environment
- Building Docker containers for the application and unit testing with sonar test coverage

Anthem Virtual Assistant (Proof of Concept): A chat-bot for the healthcare giant Anthem to answer user queries regarding insurance plan & coverage details.

- Parsing PDF documents to HTML to get data access by sections
- Used BeautifulSoup to extract the required data
- Used Rasa for Natural Language Processing
- Used Python with MongoDB for development in an Agile-scrum environment

**Software Engineer** at Infosys Jul 17 - Mar 18

Applications Migration to Azure Cloud

- Provided infrastructure solutions on Azure
- Deploying apps on virtual machines and testing after migration

**Software Engineer Student Intern** at Infosys Jan 17- May 17

**Web Developer Summer Intern** at Tnine Infotech Jun 16 - Jul 16

## ACADEMIC AND PERSONAL PROJECTS

**Admin Controlled Chatbot using Chat:** An admin controlled chatbot to help international students with features like admin can make any changes to the bot using a secret key through the chat panel itself.

- Used IBM Watson for creating the bot
- Used Django, Python to consume the webhook call and REST APIs for CRUD operations on bot
- Application hosted on cloud using Azure App service.
- <https://github.com/karansingla06/Admin-Controlled-VISA-Chatbot>

**YouTube Statistical Data Analysis:** Analysis done on YouTube most popular videos and also on COVID-19 data.

- COVID-19 related data mining using YouTube Data v3 API
- Data Cleaning, Processing and Visualization using Apache Spark, Pandas, Matplotlib, Seaborn
- <https://github.com/karansingla06/YouTube-Trending-Videos-Analysis>

**Web Search Engine:** A Java web search engine based on the data collected using web crawling.

- Inverted index using Trie and Hashmap
- Ranking of web pages using Quick select algorithm
- Auto-completion using Trie and spell check using Edit distance algorithm
- <https://github.com/karansingla06/Web-search-engine>

**E-commerce with React, Django:** A web based e-commerce application using React and Django.

- User creation, authentication with session management
- REST APIs for CRUD operations on shopping cart
- <https://github.com/karansingla06/Ecommerce-React-Django/>

**Multiple Characters Recognition with Tensorflow:** A learning project to gain a better understanding of tensorflow and neural networks.

- Used EMNIST-ByClass dataset and built the neural network with Adam optimizer function
- Used OpenCV to preprocess user image and to segment the multiple characters present in the image
- <https://github.com/karansingla06/Characters-Recognition-NeuralNetworks-Tensorflow>

**Improving Computer Vision accuracy using CNN:** A learning project to explore image recognition

- Used multiple data sources like Fashionist dataset, computer generated & real world images
- <https://github.com/karansingla06/ML-AI-Projects/tree/master/ComputerVision>

**Credit card fraud detection, Spam Detection:** Personal projects for exploring and learning machine learning.

- Used Kaggle credit card fraud and spambase dataset respectively
- Trained with SVM, Naive Bayes classifiers and got accuracy of 96% and 91% respectively
- <https://github.com/karansingla06/ML-AI-Projects/tree/master/MLProjects>
- [https://github.com/karansingla06/ML-AI-Projects/blob/master/MLProjects/NB\\_spamDetection.ipynb](https://github.com/karansingla06/ML-AI-Projects/blob/master/MLProjects/NB_spamDetection.ipynb)

## CERTIFICATIONS

- |  |        |
|--|--------|
| • "Applied Plotting, Charting & Data Representation" - Coursera                      | Mar 20 |
| • "Introduction to TensorFlow for AI, Machine Learning and Deep Learning" - Coursera | Feb 20 |
| • "Spark for Machine Learning & AI" - LinkedIn Learning                              | Feb 20 |
| • "Building React and Django Apps" - LinkedIn Learning                               | Jan 20 |
| • "Natural Language Processing with Python for Machine Learning" - LinkedIn Learning | May 18 |
| • "Understanding Machine Learning with Python" - Pluralsight                         | Apr 18 |
| • Earned Microsoft Certified Solutions Associate (MCSA) credential for Cloud Azure   | Nov 17 |

## ACHIEVEMENTS & COMMUNITY INVOLVEMENT

- |   |                |
|---|----------------|
| • <b>Graduate Student Representative</b> for School of Computer Science at UoW      | Sep 20-Present |
| • Participation in Code To Win nation wide competition at UoW                       | Oct 19         |
| • Volunteered for Community Clean Up event at UoW                                   | Sep 19         |
| • Graduate Student Society (GSS) and Indian Students Association (ISA) volunteer    | Sep 19         |
| • Spot Award for <b>Best Performance</b> at UST Global                              | Apr 19         |
| • Volunteer in raising funds for Kerala flood victims at UST and raised \$10000     | Dec 18         |
| • Student Branch member of Institute of Electrical and Electronics Engineers (IEEE) | 2015 - 16      |
| • Won gold medal in volleyball Fun Sports Meet competition at JIIT                  | 2016           |
| • Member of Knuth Programming Hub at JIIT   | 2014 - 15      |
| • Volunteer in organizing events with NGO Saksham at Raahgiri for blind children    | Apr 15         |