

# Karan Singla

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## Summary of Skills and Experience

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- **2.5+ years of full-time Software Development** experience, including 1.5 years in Artificial Intelligence (AI)
- 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
- Interpersonal skills developed through collaboration with team members in an Agile environment

## Education

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**Master of Applied Computing** at University of Windsor (UoW) with **GPA: 91** *2019 - Present*  
**Bachelors in Computer Science** from IIIT, Noida, India *2013 - 2017*

## Work Experience

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**Senior Software Developer** at UST Global *Mar 2018 - Jul 2019*

**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
- Using 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 Ltd. *Jul 2017 - Mar 2018*

Applications Migration to Azure Cloud

- Creating virtual machines, vnets, network security groups on Azure for the applications
- Publishing the applications, databases on virtual servers
- Testing the migrated application for bugs

**Software Engineer Student Intern** at Infosys Ltd. *Jan 2017- May 2017*

**Web Developer Summer Intern** at Tnine Infotech *Jun 2016 - Jul 2016*

## Academic and Personal Projects

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**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 data 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

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| • “Applied Plotting, Charting & Data Representation” - Coursera                      | <i>Mar 2020</i> |
| • “Introduction to TensorFlow for AI, Machine Learning and Deep Learning” - Coursera | <i>Feb 2020</i> |
| • “Spark for Machine Learning & AI” - LinkedIn Learning                              | <i>Feb 2020</i> |
| • “Building React and Django Apps” - LinkedIn Learning                               | <i>Jan 2020</i> |
| • “Natural Language Processing with Python for Machine Learning” - LinkedIn Learning | <i>May 2018</i> |
| • “Understanding Machine Learning with Python” - Pluralsight                         | <i>Apr 2018</i> |
| • Earned Microsoft Certified Solutions Associate (MCSA) credential for Cloud Azure   | <i>Nov 2017</i> |

## Achievements

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| • <b>Graduate Student Representative</b> for School of Computer Science at UoW      | <i>Sep 2020 - Present</i> |
| • Spot Award for <b>Best Performance</b> at UST Global                              | <i>Apr 2019</i>           |
| • Student Branch member of Institute of Electrical and Electronics Engineers (IEEE) | <i>2015 - 2016</i>        |
| • Won gold medal in volleyball Fun Sports Meet competition at IIIT                  | <i>2016</i>               |
| • Member of Knuth Programming Hub at IIIT   | <i>2014-2015</i>          |

## Campus and Community Involvement

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|---|-----------------|
| • Participated in national level Code To Win competition at UoW                         | <i>Oct 2019</i> |
| • Volunteered for Community Clean Up event at UoW                                       | <i>Sep 2019</i> |
| • Graduate Student Society (GSS) and Indian Students Association (ISA) volunteer at UoW | <i>Sep 2019</i> |
| • Volunteer in raising funds for Kerala flood victims at UST and raised \$10000         | <i>Dec 2018</i> |
| • Volunteer in organizing events with NGO Saksham at Raahgiri for blind children        | <i>Apr 2015</i> |