

Karan Singla

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Summary of Skills and Experience

- 2.5+ years of full-time Software Development experience, including 1.5 years in Artificial Intelligence (AI)
- Languages: Python, JavaScript, Java, C/C++, HTML/ CSS
- Cloud Services: Microsoft Azure, IBM
- Frameworks/Libraries: Django, TensorFlow, Spark, MLlib, React, Git, Pytest, Docker, Nltk, Pandas, Numpy, BeautifulSoup, Postman
- Databases: Mongo, MySQL
- OS: Windows, Linux
- Interpersonal skills developed through collaboration with team members in an Agile environment

Education

- **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

Senior Software Developer at UST Global

Mar 2018 - Jul 2019

Intelligent Computing Environment (ICE): UST's machine learning and artificial intelligence platform.

- Working on ICE Named Entity Recognition.
- Identification, design and implementation of the new features for the new releases
- 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 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

1. **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 *UoW*
 - 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>

2. **Web Search Engine:** A Java web search engine based on the data collected using web crawling. *UoW*
 - 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>
3. **Multiple Characters Recognition with Tensorflow:** A self-learning project to gain a better understanding of tensorflow and neural networks. *UoW*
 - Used EMNIST-ByClass dataset
 - Building, saving and loading the neural network model with adam optimizer function
 - Used OpenCV to preprocess the user image and to segment the multiple characters present in the image
 - <https://github.com/karansingla06/Characters-Recognition-NeuralNetworks-Tensorflow>
4. **Credit card fraud detection:** A self-learning project for exploring machine learning.
 - Used Kaggle credit card fraud dataset, support vector machine as the classifier
 - Achieved a 96% accuracy after data pre-processing, data visualization, training dataset balancing
 - Implemented in python on Jupyter-notebook
 - <https://github.com/karansingla06/ML-AI-Projects/tree/master/MLProjects>
5. **Spam detection:** A self-learning project for exploring machine learning.
 - Used Kaggle spambase dataset, Multinomial and Gaussian Naïve Bayes as the classifier
 - Achieved 88% accuracy for Multinomial and 81% accuracy for Gaussian
 - Implemented in Python using Jupyter Notebook
 - https://github.com/karansingla06/ML-AI-Projects/blob/master/MLProjects/NB_spamDetection.ipynb
6. **CrypChat:** An end-to-end encryption based chat messenger. *Infosys*
 - Implemented Vignere, RSA, Transposition algorithms for encryption
 - Used Python, Javascript language for development in an Agile-scrum environment
 - <https://github.com/karansingla06/CrypChat>

Certifications

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| • “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” and “Getting started with Natural Language Processing with Python” - Pluralsight | <i>Apr 2018</i> |
| • Earned Microsoft Certified Solutions Associate (MCSA) credential | <i>Nov 2017</i> |

Achievements

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|---|---------------------------|
| • Graduate Student Representative for School of Computer Science at UoW | <i>Sep 2020 - Present</i> |
| • Spot Award for Best Performance 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> |
| • Hospitality team member at International Conference on Contemporary Computing held at IIIT | <i>Sep 2016</i> |

References

Available upon request.