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 JIIT, 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.
   - Inverted index using Trie and Hashmap   *UoW*

- 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
- "Introduction to TensorFlow for AI, Machine Learning and Deep Learning" - Coursera   *Feb 2020*
- "Spark for Machine Learning & AI" - LinkedIn Learning   *Feb 2020*
- "Building React and Django Apps" - LinkedIn Learning   *Jan 2020*
- "Natural Language Processing with Python for Machine Learning" - LinkedIn Learning   *May 2018*
- "Understanding Machine Learning with Python" and "Getting started with Natural Language Processing with Python" - Pluralsight   *Apr 2018*
- Earned **Microsoft Certified Solutions Associate** (MCSA) credential   *Nov 2017*

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

Campus and Community Involvement
- Participated in national level Code To Win competition at UoW   *Oct 2019*
- Volunteered for Community Clean Up event at UoW   *Sep 2019*
- Graduate Student Society (GSS) and Indian Students Association (ISA) volunteer at UoW   *Sep 2019*
- Volunteer in raising funds for Kerala flood victims at UST and raised $10000   *Dec 2018*
- Volunteer in organizing events with NGO Saksham at Raahgiri for blind children   *Apr 2015*
- Hospitality team member at International Conference on Contemporary Computing held at JIIT   *Sep 2016*

References
Available upon request.