Karan Singla

Address: 2984 Donnelly Street,
Windsor, Ontario N9C 1L8
Phone: +1 519-977-2706

Website: https://karansingla.com
Email: karansingla.06@gmail.com | singlak@uwindsor.ca
LinkedIn: linkedin.com/in/karan-singla/
Github: github.com/karansingla06/

Objective:
I'm a machine learning and artificial intelligence enthusiast, seeking an opportunity to join an institution which will provide learning opportunities and help me in achieving the goal of becoming a subject matter expert.

Work Experience:
- Senior Software Developer at UST Global *Mar 2018 - Jul 2019*
- Software Engineer at Infosys Ltd. *Jul 2017 - Mar 2018*
- Software Engineer Intern at Infosys Ltd. *Jan 2017- May 2017*
- Web Developer Summer Intern at Tnine Infotech *Jun 2016 - Jul 2016*

Education:
- Master of Applied Computing at University of Windsor (UoW) - 91 gpa *2019 - Present*
- Undergraduate Degree, Bachelor of Technology in Computer Science from Jaypee Institute of Information Technology (JIIT), India - 79 gpa *2013 - 2017*
- Higher Secondary School Certificate (12th grade) from Satluj Public School, India with 90.2%

Technical Skills:
- **Cloud Services**: Microsoft Azure, IBM
- **Languages:** Python, JavaScript, Java, C++, Html/ CSS
- **Frameworks/Libraries**: Falcon, Django, React, Tensorflow, Git, Pytest, Docker, Rasa, Bootstrap, Nltk, Pandas, Numpy, Putty, Postman, Matplotlib
- **Databases:** Mongo, MySQL
- **OS:** Windows, Linux

Projects:
1. **Admin Controlled Chatbot using Chat:** A chatbot to help international students with information regarding programs, courses, life etc. at University of Windsor. The bot is admin controlled and admin can make any changes to the bot using a secret key through the chat panel itself. *UoW*
   - Used IBM Watson for creating the bot
   - Used Django, Python framework to handle the webhook API calls and CRUD operations on the chatbot
   - Application hosted on cloud using Azure App service.
2. **Web Search Engine:** A 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
3. **Characters Recognition using ANN and 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
4. **Intelligent Computing Environment (ICE):** UST's machine learning and artificial intelligence platform. *UST Global*
   - 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 mongo db to create all the RESTful services, in an Agile-scrum environment
- Dockerization of the application and sonar test coverage

5. **Anthem Virtual Assistant (POC):** A chat-bot for the healthcare giant Anthem to answer user queries regarding insurance plan & coverage details. *UST Global*
   - Parsing pdf documents to html for benefits/coverage details extraction in a structured format
   - Used Rasa natural language understanding (NLU) to extract intents and entities
   - Used Rasa Core for writing stories, training the dialog model, creating actions based on intents
   - Used python framework Anaconda with mongodb, in an Agile-scrum environment
6. **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
7. **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
8. **CrypChat**: A bot to answer queries with respect to weather. *Infosys*
   - Implemented Vignere, RSA, Transposition algorithms for encryption
   - Trained the model for different entities like location, time with intent to either greet or ask weather
   - Used Python, Rasa stack, in an Agile-scrum environment
9. **Recommendation for gray-sheep users**: Recommendation for those users who do not have any similarity with the other users. *JIIT*
   - Read various research papers to gather knowledge about gray-sheep users
   - Used Collaborative filtering techniques to recommend movies efficiently to gray-sheep users
   - Found correlation , level of similarity with other users using python numpy, scipy
   - Used python libraries like numpy, scipy, matplotlib
10. **Employee Surveillance System**: A system which could track activities of the connected systems within the same network using socket programming. *JIIT*
    - Implemented admin feature for remote shutdown and close applications on employees systems
    - Implemented feature to take screenshots after specific interval of time and send to admin using pyscreenshot
    - Implemented chat portal with the connected systems
    - Used Python language

Certifications:

- Earned Microsoft MCSA badge(Microsoft Certified Solutions Associate)
- Earned a LinkedIn Learning certificate for completing course “Building React and Django Apps”
- Earned a certificate for completion of course “Natural Language Processing with Python for Machine Learning” on LinkedIn Learning
- Earned certificates for completion of course “Understanding Machine Learning with Python” and “Getting started with Natural Language Processing with Python” on Pluralsight

Achievements:

- Graduate Student Representative for School of Computer Science at University of Windsor
- Student Branch member of Institute of Electrical and Electronics Engineers (IEEE)
- Won gold medal in volleyball Fun Sports Meet competition at JIIT
- Scored highest marks in the district during secondary school
- Head boy and house captain during secondary school

Campus and Community Involvement:

- Participated in national level Code To Win competition
- Volunteered for Community Clean Up event at UoW
- Graduate Student Society(GSS) and OPUS volunteer
- Volunteered for raising funds for Kerala flood victims at UST and raised $10000
- Volunteered for organizing events with NGO Saksham at Raahgiri for blind children
- Hospitality team member at International Conference on Contemorary Computing held at JIIT