Website: https://akashzcoder.github.io

AKASH SINGH

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ACADEMIC QUALIFICATION

McGill University   **September 2016 – August 2018**
Master of Science: Computer Science
Inderprastha Engineering College   **August 2010 – May 2014**
Bachelor of Technology: Computer Science and Engineering

TECHNICAL SKILLS

- Programming Language: Java, Python, R, JavaScript, MongoDB, NoSQL, SQL, Aspect-oriented programming (CORE, RAM models).
- Web technologies: J2EE (Hibernate framework), Angular4, Bootstrap framework, NodeJS, Docker.
- Knowledge Domain: Machine learning, Human Computation.

WORK EXPERIENCE

McGill University, Montreal   **September 2016 – till date**
Designation: Graduate Research Assistant
Technology used: Python, MEAN stack, Firebase, and POSTMAN
Domain: Human-Computer Interaction, Machine learning
Projects: Phylo, Open-Phylo

McGill University, Montreal
Designation: Teaching Assistant
Course: **COMP307 Principles of Web development**   **September 2017 – December 2017**
Course: **COMP303 Software Engineering**   **January 2018 – April 2018**

Cognizant Technology Solutions, Chennai   **June 2014 – July 2016**
Designation: Programmer Analyst
Technology used: Java, Web Services and APIs
Domain: Insurance and Health Care
    Variable xTractor: extract variables from Calligo script using pattern recognition algorithms
    xDashboard: thick client application built using web-services for safer batch transactions
    QCidRoaster: To track all the Change Requests (CRs)
    XMLvalidator: For upstream XML validation

ACADEMIC PROJECTS

Title: OpenPhylo (January 2017 – till date) 🔗 **[Thesis] (beta)**
Open-Phylo is a freely accessible crowd-computing platform that enables any scientist to enter our system and use crowds of gamers to assist computer programs in solving the MSA problem. We use various machine learning approaches for extracting puzzles from the uploaded MSA, difficulty prediction of puzzles, routing of puzzles to the appropriate users, AI bot for competing against users.
Title: Phylo (January 2017 – till date) 🔗 **[Thesis]**
Phylo is a citizen-science game that helps in solving the problem of Multiple Sequence Alignment (MSA). We use machine learning to identify sections of MSA having scope of enhancement and its difficulty. RESTful APIs were designed by me using Node, Express and Mongo.
Title: Chinese Dialogue Corpus (September 2017 – October 2017) 🔗 **– NLP project**
A Chinese corpus suitable for goal based data-driven learning of dialogue systems. This corpus is

constructed using human-human conversations on topics related to economics and economy from Baidu Tieba.

Title: Letter based language classifier (October 2017 – November 2017) 🔗 **– NLP project**

We evaluate different machine learning techniques to compare and contrast their suitability for the task of letter based language classification. We performed this classification operation using Centroid-based text classification and term frequency-inverse conversation frequency (tf-tdf) approach. The project explains the feature engineering methodologies used and their outputs.

Title: ICLR reproducibility challenge (September 2017 – December 2017) 🔗 **– DNN project**

The goal of this project is to investigate the reproducibility of empirical results submitted to the International Conference on Learning Representations, 2018 for the paper: "CONVOLVING DNA USING TWO-DIMENSIONAL HILBERT CURVE REPRESENTATIONS".

Other projects:
1. **Title: Reverse Engineering of WSO2 IoTServer** [McGill University]
2. **Title: Aggregation of MSA** [McGill University]
3. **Title: Reverse Engineering Hibernate framework** [McGill University]
4. **Title: Training and Placement Portal of IPEC** (August 2012 – March 2013) [IPEC]

CONFERENCE PAPERS

AAAI: Lessons from an online massive genomics computer game (accepted) – to be published 🔗

HCOMP (WIP paper): A Human-Computation Platform for Multi-Scale Genome Analysis (accepted) – to be published 🔗

IEEE: Debit/ATM card security based on chaos function and QR code (April 2014) 🔗

JOURNAL PAPER

IJEDR: Chaos based Cryptosystem (June 2014) 🔗

INTERNSHIPS/TRAINING

Cognizant Technology Solutions, Chennai (June 2014 – August 2014)
- Issue and Complaint Management System

Sopra India Pvt. Ltd., Delhi (August 2012 – March 2013)
- A team of top 6 students from IPEC and new recruits from Sopra India Pvt. Ltd collaborating in the same project: Student Information Management System (SIMS) going through different phases of Agile model.

Sahara Q – shop, Mumbai (June 2013 – July 2013)
- Created Transaction codes (T-codes) using SAP ABAP for SAP SD team required in data analysis of retail business.

CERTIFICATIONS

- Level 1 ethical hacking certified, November 2012.
- Secured an 'A' in Advanced Java Diploma at Pacific Networks, Mumbai in July, 2012.
- Cognizant Certified Professional in C and MySQL, September 2014.

AWARDS AND ACHIEVEMENTS

Scholastic Achievements
- Digital Superstar of Cognizant for three-quarters in 2015.
- Gold Award in Project Management Strategy organized in Cognizant, December 2014.
- Highest Scorer from IPEC in ACM-ICPC, September 2012.
- Branch topper of IPEC in B-Tech first year, July 2010 - June 2011.
- Highest AMCAT scores in IPEC, (National Percentiles) [id: 10019851223103] with an average percentile of over 99.

EXTRACURRCIUALR ACTIVITIES

- Lead blogger in Cognizant Academy, June - August 2014.
- Team Lead in organizing the event "Blind Coding" for ACM Tech-Sennight, September 2013.
- Member of the Association for Computing Machinery (ACM), August 2012 - July 2013.