Utkarsh Vashishtha

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EDUCATION:

Birla Institute of Technology and Science, Pilani Campus, Pilani, India   **Aug 2015 – Jul 2019**

B.E(Hons.) Computer Science ; **GPA: 9.28/10.0 – (Distinction)**

Coursework : Machine Learning, Information Retrieval, Operating Systems, Computer Networks, Computer Architecture, OOP principles and design, Computer Programming, Database Systems, Data Structures and Algorithms, Design and Analysis of Algorithms, Compiler Construction

EXPERIENCE:

AppDynamics, Cisco, Software Engineer : R&D   Bangalore, India ; **Jul 2019 – Present**
- Design and development of a distributed data-ingestion platform for streaming structured and un-structured data analytics, leveraging open source technologies such as *Apache Kafka, Elasticsearch, Apache Avro, Schema-registry* for the data-plane.

Qubole Inc., Software R&D Intern   Bangalore, India ; **Jan 2019 – Jun 2019**
- Worked on various components of *Presto*, an open source distributed query engine and its server-less offering, *Quantum*. High Availability of *Quantum* clusters, inclusion of the faraday library for tunnel proxy port in Presto, middleware improvements for stable connection between client and *Presto* servers, *Quantum Hive Auth* (secure layer over the Hive meta-store)

Citicorp Services, Technical Analyst   Pune, India ; **Jun 2018 – Jul 2018**
- Development and automation of trade algorithms for real-time detection of trade anomalies, for the Commodities business unit.
- Automation of SDLC Workflow, Automatic merging of Source Codes to a common Repository (similar to *Git*) and automation of *Microsoft SQL* database scripts validations as a pre-deployment step on Production servers.

YRALS Digital India Pvt. Ltd., Software R&D Intern   Mumbai, India ; **May 2017 – Jul 2017**
- Chroma-Keying : Green-screen(any color) removal effect for dynamically generated videos on a web-cam, using *JavaScript*.
- Template-Engine : Designed a web-app to allow users to generate frame templates for automated video creation.

RESEARCH | PUBLICATION:

Application Monitoring using libc Call Interception, *AppDynamics, Cisco R&D*   **Jan 2020 – Jul 2020**
- Developed an easy to use, language-agnostic, platform-agnostic monitoring tool, for distributed applications in Golang.
- Research work accepted for publication in the *ICICCS 2020 conference proceedings*.

Nowcasting, Undergraduate Research Project   **Jul 2018 – Dec 2018**

(*Under the guidance of **Dr. Navneet Goyal**, BITS, Pilani*)

- Developed a ML model for Earthquake prediction near water bodies using Dynamics Factor models and Kalman Filters.
- The implementation was based out of data provided by the Ministry of Earth Sciences, Government of India based on the paper *Geodetic Constraints on Tectonic and Anthropogenic Deformation and Seismogenesis of Koyna–Warna Region, India*.

Human Fall Detection, Undergraduate Research Project   **Jan 2018 – Jun 2018**

(*Under the guidance of **Dr. Sanjay Singh** in CSIR- Central Electronics Engineering Research Institute (CEERI), Pilani*)

- Developed a deep learning model for detecting a human fall using temporal and spatial aggregations from video processing.
- Employed the 3D-CNN and LSTM models for mapping features to a data point which was then fed to a Softmax classifier characterizing it as a fall/no-fall. The classification accuracy varied between datasets, but along with metrics like sensitivity and specificity we were able to achieve state of the art values.

ACADEMIC PROJECTS:

- Heart disease detection by leveraging the concept of Active Learning. Used Query-By-Committee with KL divergence on an ensemble of classifiers to achieve a true-positive rate of ~91% on the testing data set.
- Hybrid Music recommender system with collaborative and content-based filtering augmented with sentiment analysis.
- Compiler Creation (Lexer, Parser, Intermediate code generator, ASM code generator, for a custom C++ like language)
- Implementation and usage of a k-NN classifier in scheme, a functional programming language, for product recommendation.

AWARDS / EXTRA-CURRICULARS / SOCIETIES

- **KVPY** (Kishore Vaigyanik Protsahan Yojana) **fellowship,** *Indian Institute of Science*, Bangalore, India   **2014**
- **Member, ACM** (Association of Computing Machinery)**,** *BITS-Pilani* Chapter   **2016 –18**
- **Captain,** Athletics team, BITS-Pilani, won numerous medals as a sprinter   **2017 –18**
- **Head, SSMS** (Society for Student Mess services) **technical team**, *BITS-Pilani*   **2017 –18**
- **Member, Department of Theatre,** *BITS-Pilani*   **2015 –18**

MOOC(s) / PROGRAMMING SKILLS:

- *Golang* principles and optimization for high performance : Cisco Learning and Development program
- *Docker* with *Kubernetes* : Cisco Learning and Development program
- *Apache Kafka, Elasticsearch, Scala* and *Spark* for Big Data and Machine Learning : Udemy
- Neural Networks and Machine Learning, : Coursera
- Programming : *Java • C • C++ • Python • Golang • Ruby • R*
- Databases and Frameworks : *Elasticsearch, Hibernate, Kafka, Presto, Spark, Ruby on Rails, Guice, Spring MVC, Gradle*