Satyam Verma

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Experience

- **Altair Engineering India Pvt. Ltd.** *Jun 2017 - Jan 2020*
  Software Engineer Bengaluru, India
  - Designed, developed and maintained software for software product management and automation framework in a variety of languages such as JavaScript, Python, Bash script and Tcl in various environments like Linux, Unix and Windows.
  - Extracted and analytically analyzed a large volume of technical data that helped in taking informed technical decisions that provide solutions to development challenges.
  - Researched, prototyped and evaluated features and automatable tasks and planned its deployment for automation and software production services.

Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
PGP (AI&DS)	Jio Institute	9.50	2022-Present
B.Tech (CSE)	SRM Institute of Science and Technology	9.17	2013-2017

Internships

- **Altair Engineering India Pvt. Ltd.** *Dec 2016 - May 2017*
  Student Intern Bengaluru, India
  - Developed program in C++ to capture memory usage and peak memory usage of processes for performance evaluation and improvements.
  - Improved searching among hundreds of builds in the Automated Testing Infrastructure (ATI) Tools interface by providing Combo-Box widget, built by composition of autocomplete and button in JavaScript.
  - Developed a memory management script in Python for storage clusters.

- **Tata Consultancy Services** *Jun 2016 - Aug 2016*
  Software Development Intern Chennai, India
  - Developed an automated Emotion Analysis System. Implemented algorithm for elements of sound perception with few other properties like sound pressure, sound intensity and sound power in R.
  - Implemented algorithm to extract phonetic features from recorded or live audio and prepare a database for modeling in R.
  - Hyperparameter optimization problem was solved using algorithms like Grid search and Gradient-based optimization to improve the performance of the Support Vector Machine (SVM) model.

Academic Projects

- **Power Consumption Prediction in India** *Dec. 2016 - May 2017*
  Undergraduate Major project
  - The project objective was to analyze electricity consumption trends in past years and to predict future demand based on various dynamics. It helps the government to design strategies, long-term policies and programs for the power sector in India.
  - Data imputation was done through methods like Mean substitution, Median substitution, Ratio imputation and libraries in R like missForest, Hmisc and Amelia were used.

- **Emotion Classifier** *Dec. 2015 - May 2016*
  Undergraduate Minor project
  - A multinomial logistic regression-based approach was used to identify dominant emotion in a speech.
  - Three features namely energy, pitch and duration were used in the project to identify basic emotions like Anger, Disgust, Fear, Joy, Sadness, Surprise and Neutral.

Research Projects

- **National Institute of Technology** *Summer - 2015*
  Semantic oncology framework - Ontology for the topography of tumour
  - Developed an ontology-based conceptual graph for representing a domain-specific knowledge base for the topography of tumor diseases.
  - Learned Protege, frameworks for building intelligent systems and Ontology development methodologies.

- **National Institute of Technology** *Winter - 2015*
  Semantic oncology framework - Ontology for the topography of tumour

– The ontology-based knowledge graph was extended by adding knowledge about the morphology of the tumor. The Complete ontology developed constitutes the Semantic Ontology Framework.
– The developed ontology SOF was mapped with the Foundational Model of Anatomy Ontology (FMA). These particular neoplasm sites were mapped with the corresponding parts in the human anatomy of FMA ontology.
– Implemented framework can help in training about Oncology, grading of cancer repositories, and mapping morphology and topographic code from cancer pathological reports.

Technical Skills

- **Programming Languages**: Python, C++, C, Shell Scripting, R, MATLAB, Bash, JavaScript, SQL
- **Developer Tools**: JIRA, Perforce, Confluence, PBS, Visual Studio, VS Code, Weka, Git, PyCharm
- **Data Analytics**: Statistical Modelling, Machine Learning, Predictive Analytics

Publications

- **Prediction of Electricity Consumption in India** *2019*
  Journal of Advanced Research in Dynamical and Control Systems
  – Forecasted Electricity demand using different machine learning algorithms like Support Vector Machine (SVM), Artificial Neural Network (ANN) and Linear Regression integrated with Time Series Model.

- **Emotional Analysis Using Multinomial Logistic Regression** *2016*
  Indian Journal of Science and Technology
  – A multinomial logistic regression model was developed based on effective speech signal features that portray implicitly the emotional state of the speaker.

Positions of Responsibility

- **President, Senior Secondary School Student's Council** *2012-2013*
  Keshav Saraswati Vidya Mandir, Patna, Bihar, India
- **President, Secondary School Student's Council** *2010-2011*
  St.Michael's High School, Patna, Bihar, India