

# GURPREET SINGH

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## TECHNICAL SKILLS

**Data Analysis and Visualization:** Power BI, MS Excel, Oracle SQL Developer, Snowflake, SSMS, Tableau

**Programming Languages:** SQL, Python, Java, JOGL, HTML, CSS, JavaScript, Fortran, LaTeX

**Frameworks/Libraries:** Pandas, Scikit-Learn, NumPy, Matplotlib, Seaborn, ReactJS, ExpressJS, Node.js, NPM, Tensorflow

## EDUCATION

**M. Sc. (Computer Science)**— University of Northern British Columbia

Prince George, BC | Sept 2016-April 2019

**Ph. D. (Physics)**— Panjab University

Chandigarh, India | July 2010-Nov 2015

## WORK EXPERIENCE

### Business Analyst | ZE Power Group Inc. | Richmond, BC | June 2022-Present

- Employed a diverse toolset including Power BI, Excel, Python, REST API, Oracle SQL Developer, and more for meticulous data analysis and insightful reporting, enhancing the precision and effectiveness of decision-making processes.
- Played an active role in the seamless data flow from ZEMA application to downstream systems, executing data extraction, and data cleansing to maintain data integrity.
- Took charge of in-depth analysis, resolving intricate curve reconciliation tasks in the upgraded ZEMA version. Scrutinized multiple reports, identifying and resolving data discrepancies for a seamless transition for clients.
- Developed Python scripts to automate manual analysis tasks, significantly reducing weeks' workload to a few hours.
- Led comprehensive analysis before client onboarding, meticulously validating data accuracy, consistency, and adherence to required formats. Rigorously examined the data sources, ensuring precision, and guaranteed that clients' transition to the live environment was smooth, successful, and backed by high-quality data.
- Utilized Power BI to create multiple reports, extracting data directly from Oracle Database. Employed advanced visualization techniques to transform raw data into informative graphs, enhancing insights through diverse features.

### IT Support Analyst | ZE Power Group Inc. | Richmond, BC | April 2021-May 2022

- Managed Active Directory administration, and MS Exchange, and resolved various end-user issues.
- Supported multiple administrative portals, including Office 365, JIRA, and other data solution tools.
- Maintained accurate and timely reports to ensure compliance with inventory requirements.

### Teaching Assistant | University of Northern British Columbia | Prince George, BC | Sept 2016-Dec 2018

- Instructed and assessed students to meet course objectives and enhance learning outcomes.
- Provided project guidance, ensuring timely assignment completion, and participated in professional development activities.

### Research Assistant | Raman Spectroscopy Laboratory, Panjab University | Chandigarh, India | July 2010-June 2015

- Conducted experiments using various sophisticated scientific instruments, performed ETL operations, and ensured the accuracy and reliability of the data for analysis.
- Optimized quantum chemical model predictions for multiple antioxidant molecules through hyperparameter tuning, enhancing the accuracy and efficiency of computational simulations.
- Utilized a range of visualization and data analysis tools such as OriginLab, Gnuplot, Qtplot, Spekwin, LaTeX, Linux Vim, and MS Excel for diverse tasks including curve fitting, peak analysis, baselining, signal processing, and statistical analysis.
- Applied advanced statistical techniques to analyze patterns, correlations, and evaluation metrics, extracting meaningful insights from complex datasets.

### Research Assistant | Cyclotron Laboratory, Panjab University | Chandigarh, India | Aug 2008-June 2010

- Collected and cleaned data from heavy-ion fusion experiments at IUAC, New Delhi, India.
- Studied anomalous deviations in experimental data compared to model predictions (statistical and dynamical models)
- Condensed outcomes through written reports, graphs, and tables for clear communication.

## MAJOR PROJECTS

### Employee Attrition Analysis-Data Analysis and ML

- Executed data cleaning, transformation, analysis using different Python libraries on employee attrition data.
- Built models based on RandomForestClassifier, Logistic regression, and Tensorflow and summarized results.

### Dog breed Identification-Data Analysis and ML

- Performed data transformation and model prediction using deep learning API (Keras-mobilenet\_v2).
- Trained the model on more than 10,000 images. Made predictions for test data via calculating prediction probabilities

### Protein Structure Optimization-Java Application

- Created an interactive user interface using Java and JOGL with multiple input/ output/analysis options.
- Implemented meta-heuristic optimization algorithms and on-demand hybridization among algorithms.

## RESEARCH PUBLICATIONS

Presented research work in various conferences, workshops, and symposia, and contributed six publications in scientific journals.