Himanshu Taneja

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WORK

Software Engineer, Meta, Seattle WA   *March'22 – Present*

- Tech stack: Hack (PHP)
- Build infrastructure for Facebook and Instagram Ads.

Software Engineer, MathWorks, Natick MA   *May'19 – March'22*

- Tech stack: C++, JavaScript, HTML, CSS
- Design and develop GUIs and APIs for MATLAB & Simulink Online.

Application Support Engineer, MathWorks, Natick MA   *Jun'18 – Apr'19*

- Tech stack: JavaScript, MATLAB
- Assist MATLAB customers working in machine learning and data processing.

EDUCATION

Texas A&M University, College Station, Texas   *Aug'16 – May'18*
M.E. in Electrical Engineering, GPA: 4.0

USICT, Guru Gobind Singh Indraprastha University, Delhi   *Aug'12 – May'16*
B.Tech in Electronics and Communications Engineering, GPA: 74.85 / 100

SKILLS

Software and web development
*Programming Languages***:** Hack (PHP), C++, JavaScript, Python, Java, SQL
*Tools & Services***:** Thrift, Scuba, Hive

ACADEMIC PROJECTS

Molecular Geometry Optimizer
A Java application to optimize 3-dimensional structure of chemical molecules. The app implements a probabilistic optimization algorithm (Metropolis-Hasting) to find an optimal structure that minimizes the molecule's overall energy.

- Designed & implemented data structures to represent 3D structure of molecules; the custom data structures provide fast operations required for optimizing the molecular geometry.
- The application is scalable and efficient, achieving constant-space & linear-time requirement per iteration (linear in number of atoms and bonds).

Classification of Microarray Data
The project involves using machine learning algorithms on Microarray to differentiate types of Leukemia Cancer. Microarray are "high-dimensional low-rank" matrices which provide a snapshot of cell/tissue status.

- Analyzed Generative & Discriminative class of ML algorithms and identified the challenges in their use with "high-dimensional & low-sample" data.
- Explored different dimensionality reduction and feature extraction techniques; compared their complexity and performance on microarray data.

Sentiment Analysis of Restaurants Reviews
A java application to identify the polarity of restaurants reviews. The app is based on an unsupervised learning algorithm that works by calculating the semantic orientation of different phrases in a review.

- Designed Part-of-Speech based regular expressions to extract all "phrases" in a review.
- Wrote a Java package to perform efficient proximity searches on large set of text documents.