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AVIJIT SINGH NALWA

EDUCATION

University of California, Los Angeles (UCLA) – Department of Mathematics — **Los Angeles, California**
Bachelor of Science in Financial Actuarial Math: GPA 3.72/4.0 — *April 2021*

- Honors College, Dean's Honors List: Spring 2020, Winter 2020, Fall 2018, Spring 2018, Winter 2017
- UD Coursework: Linear Algebra, Real Analysis, Probability, Statistics, Financial Mathematics, Interest, Microeconomics

MACHINE LEARNING PROJECTS

Movie Recommendation System - GitHub — **Los Angeles, California**
Collaborative Filtering via Singular Value Decomposition & Stochastic Gradient Descent — *March 2020*

- Created a system in Python that uses machine learning to provide personalized recommendations to users based on their ratings of a few movies from the MovieLens dataset; Optimal recommendations using a low dimensional approximation.

Number Recognition WebApp - Link — **Los Angeles, California**
Convolutional Neural Networks & Data Augmentation in TensorFlow & Flask Framework — *April 2020*

- Created a well generalizing deep learning model trained on the MNIST dataset with image augmentation in Python.
- Built and deployed a Flask WebApp that correctly and quickly classifies hand drawn input with significant distortions.
- Used Heroku for deployment, HTML, CSS, Javascript, Ajax, Flask & TensorFlow (Python) for development.

Predicting Wine Quality - GitHub — **Los Angeles, California**
Stacked Ensemble: Deep Neural Network Meta-trainer with 3 base models in Python & Data Visualization — *May 2020*

- Created 3 base models for the ensemble: Gradient Boosting Machine, Random Forest, Deep Neural Network.
- Achieved 90% White Wine, 88% Red Wine exact quality rating prediction accuracy. Used h20.ai, Pandas, Seaborn.

WORK EXPERIENCE

Root Insurance — **Columbus, Ohio**
Actuarial Intern, Actuarial Pricing: Tooling — *June – September 2020*

- Created a family of analyses within R that efficiently compute a metric tracking risk levels based on actuarial rating factors.
- Improved runtime efficiency by 75% through parallel computing. Built many visualization and automated analysis methods.
- Used RODBC, SQL, and AWS S3 with R to automatically query large datasets and quickly analyze using Data.table, Plotly.

Siegel+Gale — **Los Angeles, California**
Insights Intern, Research & Insights — *June – August 2019*

- Created an end to end segmentation analysis in R using clustering & improved runtime by 50% using parallel computing.
- Built Natural Language Processing and Topic Modelling tools in R that discovered themes from qualitative interviews.
- Designed qualitative questions, a brand equity survey and collected strategic research from stakeholder interviews for VISA.
- Identified new insights using existing data to build a positioning strategy for Lam Research by conducting a research audit.
- Built a user typing tool within R for name validation and brand perception research for NBC Universal (Peacock streaming).
- Created 2 research driven Employee Value Propositions for Siegel+Gale; Usability interviews for Wells Fargo Brand Portal.

Green Hasson Janks — **Los Angeles, California**
Technology Solutions Intern, Tax & Audit — *April – June 2019*

- Analysis: Improved the efficiency of a custom automated billing solution by redesigning the excel data-table structure & reducing computational complexity. Resulted in reduced runtime, product creation, and better department productivity.
- Consulting: Designed the product & revenue model for a business facing automation tax product that optimizes deductions.

The Princeton Review — **New Delhi, India**
Consulting Intern, Revenue & Partnerships — *July – August 2018*

- Data Analysis: Optimized marketing strategy and operations efficiency by creating a statistical analysis of data by region.
- Market Research: Provided differentiation and an understanding of market segmentation through competitor analysis.
- Product Development: Created a new career counselling product by analyzing employment growth, skill deficit, and median pay labor statistics across highly targeted destinations. Identified high impact partnerships for strategic growth.

LEADERSHIP & EXTRACURRICULARS

UCLA Student Government — **Los Angeles, California**
Director: Technology Impact, Outreach, Office of the Internal Vice President — *January 2019 – Present*

- Led a team of developers and designers - created websites that improved funding accessibility for student-orgs, increased financial transparency through interactive data visualizations, and built an advocacy volunteering search portal (150+ orgs)

Computer Science — **Los Angeles, California**
Algorithms, Data Structures, Clustering, Version Control — *August 2019 – Present*

- Audited courses on asymptotic analysis, divide & conquer algorithms, stacks, priority queues, graphs, trees, hash tables.
- Languages: Python, R, SQL, C++, HTML, CSS, Ruby on Rails; VCS: Git.

Brown University Leadership Institute, *Scholar*. **CERN Particle Physics**, *Research Trainee*.**Wharton**, *Entrepreneurship*. **IBM**, *Python*. **Google**, *Digital Marketing*. Interests: Consulting, Data Science, Machine Learning, Actuary, Finance, Music, Table Tennis, Puns.