Rohil Verma

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Education

Massachusetts Institute of Technology (MIT) Cambridge, MA

B.S. in Computer Science, M.Eng. in Computer Science (GPA: **5.0/5.0**) *June 2020*

Relevant Coursework: Data Structures/Algorithms, Reinforcement Learning, Generative Adversarial Networks, Deep Learning, Inference, Natural Language Processing, Computer Vision, Computational Biology, Theory of Computation

NTSE Scholar: 1/1000 recipients of the National Talent Scholarship from the Govt. of India out of ~1 million candidates

Experience

Summer Analytics Fellow, *McKinsey & Company* Houston, TX

Developed pricing models, ran sales trainings and supported cultural transformation *May. 2019- Aug. 2019*

- Created random forest and rules-based models to cluster customers and set target prices using Python/Alteryx. Forecasted value capture at 1-1.5% of gross sales / $100-150M.
- Headed sales trainings alongside business leads to educate, prepare, and transform salesperson mindsets for their negotiations. Trainings improved value capture from 0.25% to 2% of gross sales.

Machine Learning Lead, *HealthFortis* Lexington, MA

Led physician referral-approval product design, development, and launch *Nov. 2018- May. 2019*

- Managed team of 4 to design, implement and test software stack offering referral-approval models as a software-as-a-service. Created $6M /1-2% of revenue in bottom-line cost savings for LA-based medical group.
- Evaluated performance of linear models, random forest variants, and neural networks on approval accuracy. Reduced referral turnaround time from 24-48 hours to seconds.
- Supported sales conversations with healthcare providers; 2 providers now in pilot phase.

Data Analysis Intern, *Celect (*Parent*: Nike)* Boston, MA

Built demand estimation algorithms, forecasting models, and optimization pipelines *May. 2018- Aug. 2018*

- Modelled demand as a Poisson process and built a maximum likelihood matrix completion algorithm in Python.
- Forecasted sales with random forest, linear regression, and nearest neighbor models. Improved forecast by 5%.
- Built assortment and choice count optimization pipelines. Predicted average profit lift of 13.9% across clients.

Research

- **Bayesian confidence metrics for neural networks:** Evaluated confidence metrics arising from varying network architectures, support functions, and intermediate activations. Presented a time/space-efficient baseline.
- **Unsupervised pre-training in reinforcement learning:** Compared utility of perceptual and curiosity-driven pre-training. Found that neither reliably speeds up training, but may direct agent towards better policies.
- **Detection of GC-rich regions and CpG islands:** Trained Hidden Markov Models on full chromosomes to detect CpG islands (8 states) and GC-rich regions (2 states) within a genome; improved model by training on unlabelled data (Baum-Welch unsupervised learning).

Peer-reviewed Publications

- **Rohil Verma**, Samuel Kim, David Walter: **Syntactical Analysis of the Weaknesses of Sentiment Analyzers**. Empirical Methods in Natural Language Processing 2018: 1122-1127

Skills

Programming Languages: Python, C, Node.js, Java, C#, Bash, R; **Techniques:** IoT, network security, hardware, web

Tools: Excel, Tableau, Alteryx, pandas, scikit-learn, tensorflow, keras, Linux, Git; **Languages:** Hindi, Spanish