Ganesh Venkatesan

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EDUCATION

Master of Science – Engineering Science and Mechanics, Penn State University (PSU), USA, CGPA – 3.8/4.0 **Aug 2018**

Bachelor of Technology – Aerospace Engineering, Amrita University (AU), India, CGPA – 8.13/10.0 **May 2016**

SKILLS: Python, R, Sci-kit Learn, Scipy, Numpy, Neural Nets, Pandas, Git, matplotlib, Pytorch, Neural Nets, Jupyter

PORTFOLIO : https://ganeshv221.github.io/

PROFESSIONAL CERTIFICATES

Massachusetts Institute of Technology (MITx) Professional Certificate in Statistics and Data Science Feb 2021-Sept 2021

- Developing competency in statistics, data science, machine learning and practice through 20 hours per week of coursework.
- Analyze big data and make data-driven predictions through probabilistic modeling and statistical inference; identify and deploy appropriate modeling and methodologies in order to extract meaningful information for decision making.
- Develop and build machine learning algorithms to extract meaningful information from seemingly unstructured data; learn popular unsupervised learning methods, including clustering methodologies and supervised methods such as deep neural nets.
- Probability - The Science of Uncertainty and Data - Probability models and axioms, conditioning and independence, counting, discrete random variables, continuous random variables, Bayesian Inference, limits theorems and classical statistics, Bernoulli and Poisson process, Markov chains.
- Fundamentals of Statistics - Foundations of Inference, Methods of Estimation, Hypothesis testing, Bayesian Statistics, Linear regression, Generalized Linear Models, Principal Component Analysis.
- Machine Learning with Python : From Linear Models to Deep Learning - Linear Classifiers, seperatibility, Perceptron Algorithm, Maximum margin hyperplane, loss, regularization, Stochastic gradient descent, over-fitting, generalization, Linear regression, Recommender problems, collaborative filtering, Non-linear classification, kernels, Learning features, neural networks, Deep learning, back propagation, Recurrent neural networks, Unsupervised learning, clustering, generative models and mixtures, EM Algorithm, Reinforcement learning, Natural language processing.

Harvardx Professional certificate in Data Science Aug 2019-Dec 2019

- R programming basics – functions, vectors sorting, conditionals, loops, plots. Used R Studio for developing code.
- Data Visualization – Worked on case study involving data from Gapminder about trends in world health and economics.
- Probability – Applied sampling models on the Big Short to relate bank loans and interest rates using 2015 US Period Life Tables.
- Statistical inference – Created forecast models for 2016 US Presidential Election, Brexit and research funding rates.
- Wrangling – Import, scrape data from the web, tidy, process strings and regular expressions, wrangle data, and mine texts.
- Productivity tools – Use Linux to manage file systems, start a repository on GitHub, perform version control with git.

Building Python Application on AWS Professional certificate May 2021–May 2021

- Exploring how to build an API driven application using Amazon API Gateway for serverless API hosting, AWS Lambda for serverless computing, and Amazon Cognito for serverless authentication.

PROFESSIONAL EXPERIENCE

Application Engineer, Altair Engineering, USA Aug 2019-Dec 2019

- Working closely with the development team validating new features, benchmarking, testing, documentation, support the technical and sales teams, and developing content for internal and customer training for Altair Injection Molding Solver.

Manufacturing Solvers Intern, Altair Engineering, USA Jul 2019-Dec 2019

- Worked with development team to test injection molding solver along on SimLab interface.
- Testing involves filling, packing, cooling, warpage and fiber orientation analysis of short fiber injection molded parts.

Engineering Documentation and Development Intern, USA Nov 2019-Jun 2019

- Documented new features for Altair OptiStruct Online and Installation Help, including new feature and defect testing.
- Ensured product quality during the development. Work on Altair OptiStruct Product Validation to evaluate the quality of the program based on rigorous new feature and defect testing.
- Built new problems for Altair OptiStruct Verification Problem Manual, Example Problem Manual & Demo Problem Manual.
- Worked on Altair OptiStruct Solver Interface Testing in HyperMesh, HyperView & SimLab.
- Worked with the Process Improvement team to drive process enhancements and improve process automation.

PUBLICATIONS

- Transverse Young's Modulus of Carbon/Glass Hybrid Fiber Composites, Journal of Composite Materials, SAGE, Aug 2019.
- Predicting Fiber Orientation in Short Fiber Reinforced Injection Molding Process using Discrete Element Methods, ANTEC, 20th Ap 2020.