GANESH VENKATESAN

+91-9345526726 • ganeshv221@gmail.com • 2, Bharathipuram, Avinashi Road, Pappanaicken palayam, Coimbatore, India - 641037

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: R, Python, AWS

PROFESSIONAL CERTIFICATES

Massachusetts Institute of Technology (MITx) Professional Certificate in Statistics and Data Science **Feb 2022**

- Developing competency in statistics, data science, machine learning and practice through 20 hours per week of online 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 networks.
- 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 **Jan 2020**

- R programming basics – functions, vectors sorting, conditionals, loops, plots. Used R Studio for developing code.
- Data Visualization – Worked on case study involving data from the Gapminder Foundation 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 and modeling – 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**

- 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 Jan 2020-Aug 2020

- 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– Dec2019

- Worked with development team to test injection molding solver along on SimLab interface.

Engineering Documentation and Testing Intern, Altair Engineering, USA Nov 2018– Jul 2019

- Documented new features for Altair OptiStruct Online and Installation Help, including new feature and defect testing.

Engineering Mechanics Graduate Teaching Assistant, PSU Aug 2017 – Aug 2018

- Tutored concepts for students in statics, dynamics, strength of materials and composite processing course-works.

Computer-aided Engineering Intern, IIT-Kanpur May 2015 – July 2015

- Designed finite element models for composite materials in HyperMesh. The composite models include continuous fibers (unidirectional and, bidirectional weave with crimp).

RESEARCH EXPERIENCE

Finite element analysis of hybrid composites, Master's Thesis, PSU Aug 2016 - Aug 2018

- Developed finite element models to predict mechanical properties of unidirectional-hybrid-composites and validated with experimental results.
- Constructed parametric models using ABAQUS, performed linear structural analysis, convergence studies using and post-processed the results using scripts.
- Performed four-point-flexure-test according to ASTM D6272 method to measure mechanical properties of composites.