NIKHIL VENKATESH

Graduate Research Associate at Aerospace Systems Design Lab (ASDL), Georgia Institute of Technology

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Passion for data-driven strategy/management consulting engagements with strong interest in opportunities across the aviation/ transportation/ aerospace value chain

Education

Georgia Institute of Technology

August 2018 - December 2019

M.S. Aerospace Engineering

- System Design and Multi-disciplinary Optimization
- GPA 3.67/4.0

Georgia Institute of Technology

August 2014 - May 2018

B.S. Aerospace Engineering

- GPA 3.76/4.0
- ACT Score : 33

Work Experience

Safran

May 2018 - August 2018

Project Engineering Intern

Guided a reorganization of modeling and analysis tools for aircraft generator design to create site-wide knowledge gains in conceptual design

- Developed a preliminary analysis environment using **Python** and **ANSYS FEM** tools to characterize heat losses and thermal performance of rotating and Power Electronic (PE) components for a new aircraft generator topology.
- Utilized **parametric**-**DoE**'s (Design of Experiments) to quantitatively compare and down-select design changes on PE and housing assemblies that reduced maximum operational temperature by 9%.
- Engaged with **cross-disciplinary teams** comprised of multi-leveled engineering experience.

Project Engagements

FedEx Network Optimization

August 2018 - Present

Graduate Research Associate

*Supporting the development of a time-efficient and cost-effective U.S. domestic **vehicle/package routing network** to alleviate package transportation (pickup and delivery) delays incurred by FedEx*

- Programmed an aircraft takeoff slot generation module in **JAVA** to create time-efficient takeoff times for continental-US FedEx fleet
- Constructing a cost minimization algorithm for time-feasible package routing options using a **Mixed-Integer Programming** framework in **Gurobi**
- Engaging with graduate peers, industry professionals, and experienced research engineers to present results to sponsors regularly

Rolls Royce Supply Chain Resiliency

August 2018 - May 2019

Project Manager

*Lead a micro-consulting team to develop a **parametric** supply chain modeling and insight environment to inform client teams regarding best mitigation strategies towards military supply chain disruptors*

- Roadmapped **risk management** and **resiliency** strategies for deployed Rolls Royce military assets
- Performed risk identification and characterization across global supply chain nodes for Rolls Royce assets
- Directed the development of a flexible, scenario-driven **decision support environment** using **discrete event simulation** for Rolls Royce team
- Co-ordinated and lead weekly team presentations on current research developments to sponsors and multi-tiered research engineers

Financially-Accessible Supersonic Transport (FAST)

August 2018 - May 2019

Graduate Research Associate

Lead the market research and technology teams as part of a regional supersonic transport roadmap development project for the FAA to provide insights regarding key regulatory, economic, and technology challenges for supersonic aircraft entry-to-market

- Conducted **requirements/ demand analysis** and potential SST **route identification** to define aircraft program goals
- Headed creation of a parametric **modeling and simulation** environment with **JMP** to perform design space exploration and probabilistically assess system feasibility through **Monte Carlo** analyses
- Coordinated a **data-driven decision making** exercise for technology programs down-selection to ensure overall regulation conformance
- Recommended **robust design** techniques to minimize technology integration uncertainties by 15%

Skills

- **Analytics:** Optimization, Machine Learning, Surrogate Modeling
- **Languages/ Data Visualization:** Python, JAVA, MATLAB, Microsoft Excel, JMP, Tableau
- **Software Development Environments:** Git, Eclipse
- **People skills:** Team management, Multi-modal communication, Technical presentations
- Languages: English (native), Tamil (native), French (intermediate), Hindi
- **Core domains:** Operations Research, Network/Vehicle Optimization, Supply Chain Management, Manufacturing, Requirements/Market Analysis