

OBJECTIVE	Seeking full-time opportunities in areas of operations research, industrial engineering, and data analytics.	
SUMMARY	<ul style="list-style-type: none"> - Solid background in operations research, statistical modeling/analysis, and programming. - Research/industry experience on optimal control of manufacturing/logistics/supply chains and revenue management. - Over 5 hands-on projects in building optimization/simulation/statistics-based decision support tools. - Energetic self-starter, outstanding analytical ability, and strong communication skills. 	
EDUCATION	Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA - Ph.D. in Operations Research (GPA: 3.92/4.00) Dec 2018 (expected) ◦ Advisor: Dr. Subhash C. Sarin . - M.S. in Industrial and Systems Engineering (GPA: 3.90/4.00) 2016 Tongji University, Shanghai, China - B.E. in Industrial Engineering (GPA: 4.64/5.00; Rank: 2/55) 2013	
COMPUTER SKILLS	Programming Languages: C++, Python, VBA, C#. Optimization: CPLEX/OPL, Gurobi, AMPL. Scientific Computing: R, Mathematica.	Database: SQL, Access. Simulation: AutoMod, ProModel, Simio. Others: Git, AutoCAD.
GRADUATE COURSEWORK	Operations Research: Linear/Nonlinear/Integer/Dynamic Programming, Scheduling and Sequencing Theory, Random Processes, Simulation. Statistics & Mathematics: Probability Theory, Statistical Inference, Statistical Learning, Real Analysis. Manufacturing & Logistics: Manufacturing Systems Engineering, Production Planning & Control, Lean Manufacturing, Semiconductor Manufacturing, Inventory and Operations Management.	
RELATED EXPERIENCE	PROS, Houston, TX (a pricing and revenue management solution company) Scientist Intern (Optimization) Jun 2017 – Aug 2017 <i>Efficient Frontier in Revenue Management</i> ^[1] - Proposed a constrained Markov decision process approach to generate Pareto frontier of conflicting airline objectives. <i>Airline Customer Value Study</i> - Built 15+ automation tools (Python and VBA) for data cleaning, demand unconstraining, and data format conversion, to analyze customer's potential revenue lift from the current leg-based control to a network-based product. - Optimized the code and reduced run time by 97%, saving weeks of overall analysis time. <i>3-day Hackathon</i> - Proposed and developed an opportunity-based dynamic flight destination recommendation engine. - Predicted market opportunities using ridge regression with time series models. Virginia Tech, Blacksburg, VA (Winner) IISE Student Case Competition in Logistics and Supply Chain Feb 2017 – Mar 2017 - Proposed a two-stage approach for a location-inventory-routing problem. - Tightened the formulation and used decomposition to accelerate. Reduced CPU time by 10 ³ + times. - Coded a computer decision support tool based on our proposed approach (C++ with CPLEX). <i>Biomass Feedstock Logistics</i> ^[2,3] Aug 2016 – present - Identified different integrated biomass feedstock supply chain problems with structural insights. - Proposed a Dantzig-Wolfe decomposition framework for integrated biomass feedstock supply chain problems. - Formulated a fleet management model in the design of a switchgrass-based bio-ethanol supply chain. <i>Joint Supply Chain Operations</i> ^[4,5] Jun 2015 – Jun 2017 - Identified the structure of the optimal shipping policy via a Lagrangian multiplier method for joint scheduling of a vendor-buyer system. Proposed a dynamic programming-based algorithm. - Proposed structural properties and solution methods (both exact and heuristic) for a joint production scheduling and shipping problem with a batching feature.	

- Semiconductor Fab Simulation* Aug 2014 – Dec 2014
- Built simulation models (using AutoMod) of the Automated Material Handling System (AMHS).
 - Proposed a coding framework for simulating complex AMHS, allowing flexibly adjusted process sequences.
 - Analyzed different scenarios (multiple releasing and dispatching rules) based on cycle time and throughput.
- Graduate Teaching Assistant* Aug 2014 – May 2016
- Instructed 15+ different manufacturing and electrical labs.
 - Designed case study project for graduate level course ISE 6424 Dynamic Programming.
- Volkswagen Automotive, Shanghai, China**
- Logistics Intern** Jul 2012 – Aug 2012
- Inquired suppliers the delivery costs of purchased parts, and updated the information in the database.
 - Communicated with suppliers to implement a new Just-In-Time system.

- PUBLICATIONS**
- [1] **Fangzhou Sun**, Wei Wang, and Darius Walczak. *On generating efficient frontier for expected profit contribution and resource utilization*. Working paper. Target: Journal of Revenue and Pricing Management.
 - [2] **Fangzhou Sun** and Subhash C. Sarin. *Optimal sorghum biomass feedstock logistics supply chain design and configuration analysis*. Working paper. Target: Bioresource Technology.
 - [3] **Fangzhou Sun**, Rahul Ramachandran, Maichel M. Aguayo, and Subhash C. Sarin. *A taxonomic review of biomass feedstock supply chain problems*. Working paper. Target: International Journal of Production Research.
 - [4] **Fangzhou Sun** and Subhash C. Sarin. *A joint production and delivery schedule for a single-vendor single-buyer system over finite horizon*. Working paper. Target: European Journal of Operational Research.
 - [5] **Fangzhou Sun**, Subhash C. Sarin, and Yuqiang Wang. *Integrated production and shipping scheduling for a single manufacturer and multiple customers*. In review, Journal of Scheduling.

- PRESENTATIONS & POSTERS**
- *Application of dynamic programming in revenue management*. Invited course lecture. Virginia Tech. 2017
 - *A joint production and delivery schedule for a single-vendor single-buyer system over finite horizon*. Presentation, 2017 INFORMS Annual Meeting, Houston. 2017
 - *Sorghum biomass feedstock logistics*. Poster, HBCU Research Summit, Virginia Tech 2017
 - *Introduction to AutoMod and AutoSched AP*. Invited course lecture, Virginia Tech. 2016
 - *Integrated production and shipping scheduling for a single manufacturer and multiple customers*. Presentation, 2015 INFORMS Annual Meeting, Philadelphia. 2015

- OTHER EXPERIENCE**
- Vice President, INFORMS VT Student Chapter** Aug 2015 – May 2016
- Managed finance and membership. Raised average weekly seminar attendance by 30% over the previous year.
 - Won INFORMS 2016 Student Chapter Annual Award, Magna Cum Laude.

- SELECTED AWARDS & HONORS**
- 1st Place Award (graduate level), IISE 2017 student case competition in Logistics and Supply Chain. 2017
 - Various travel fund awards from department and graduate student assembly, *Virginia Tech*. 2015 – 2017
 - Alpha Pi Mu, a national industrial engineering honor society, *Virginia Tech*. 2014
 - Various awards in college: Outstanding Graduate, 1st Prize Scholarship, etc., *Tongji University*. 2010 – 2013
 - Provincial 1st Prize, Chinese Physics Olympiad, *Chinese Physics Society*. 2009