Isaac J. Tetzloff

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Experience

American Airlines – Fort Worth, TX

Consultant, Operations Research & Advanced Analytics   02/2015 – Present
- Developed and maintain the optimization engine for Daily Open Time Coverage/Reserve Assignment System (DOTC/RAS), ensuring the optimal solution maintains contractual obligations while optimizing pilot preferences
- Create Tableau dashboards used by multiple airports and business units to provide information about gate changes, spare crew staffing, airport congestion and gate check bags
- Assist in the development of simulation models and analyses for flight dispatchers and terminal bag room operations to perform a variety of what-if scenarios for planning and policy creation
- Perform many ad hoc analyses for a variety of airports and business units ranging from baggage data, flight service delay prediction, turn time analysis, baggage pier assignments, schedule changes, predicted taxi times, and assignment of crews for recurrent training

Purdue University – West Lafayette, IN

Graduate Research Assistant, School of Aeronautics and Astronautics   08/2007 – 01/2015
- Developed Fleet Level Environment Evaluation Tool (FLEET) to assess the impact of current and future aircraft on fleet-level emissions using mixed integer linear programming based on resource allocation and fleet assignment problems
- Expanded original FLEET model to handle additional airports, aircraft models, airlines and objectives
- Examined impact of future supersonic aircraft on fleet-level emissions and productivity
- Awarded the NASA Graduate Student Researchers Project (GSRP) and the Purdue Forever Fellowships

Instructor, School of Engineering Education   01/2013 – 06/2014
- Served as instructor for ENGR 132 Transforming Ideas to Innovation II, one of two core courses in Purdue's First Year Engineering Program
- Developed course material and curriculum for solving complex problems from formulation to implementation in a team-based environment using Excel and MATLAB
- Awarded the Estus H. and Vashti L. Magoon Award for Graduate Student Instructors
- Earned an Advanced Graduate Teaching Certificate from the Purdue Center for Instructional Excellence

Orbital Sciences Corporation – Dulles, VA

Engineering Intern   Summer 2006, 2007 & 2011
- Performed systems engineering tasks on the Cygnus space vehicle as part of the COTS/CRS Program, including evaluating and implementing a Test Like You Fly philosophy into Cygnus testing procedures (2011)
- Modeled multiple-flexible-body systems within MATLAB and Simulink for use in future satellite designs (2007)
- Developed a software tool using MATLAB and STK/Connect rapid re-planning of a sequence of burns to bring a spacecraft from a geosynchronous transfer orbit to a geostationary orbit (2006)

Education

Purdue University – West Lafayette, IN

Doctor of Philosophy, Aeronautics and Astronautics   05/2010 – Present
- PhD research being completed in absentia, anticipated completion 12/2019

Master of Science, Industrial Engineering   05/2010 – 05/2013

Master of Science, Aeronautics and Astronautics   08/2007 – 05/2010

Massachusetts Institute of Technology – Cambridge, MA

Bachelor of Science, Aerospace Engineering with Information Technology   09/2003 – 06/2007

Bachelor of Science, Management Science   09/2003 – 06/2007

Technical Skills

Advanced: Java, LaTeX, MATLAB, Microsoft Office, SAS, SQL, Tableau

Intermediate: Gurobi, Python, R, Simio, Simulink, Xpress