

JUN CHEN

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Assistant Professor, Aerospace Engineering, San Diego State University
5500 Campanile Drive, San Diego, CA, 92182-1308

RESEARCH INTERESTS

- Modeling, Control and Optimization of Large-Scale Networked Systems
- Real-time stochastic and robust optimization
- Distributed Control and Optimization of Autonomous Systems
- Air Traffic Management and UAS Traffic Management (UTM)

EDUCATION

Purdue University, West Lafayette, IN *May 2018*
Ph.D. in Aerospace Engineering
-Concentration on Computational Science & Engineering
-Dissertation: *Computational Optimization of Networks of Dynamical Systems under Uncertainties: Application to the Air Transportation System*

M.S. in Aerospace Engineering *Dec 2014*
-Major in Dynamics and Control, Minor in Aerospace Systems
-Thesis: *Dynamic Stochastic Model for Converging Inbound Air Traffic*

Beihang University (BUAA), Beijing, China *July 2012*
B.S.E in Aeronautical Science and Engineering (Honors College)

HONORS AND AWARDS

The Grants Research and Enterprise Writing fellowship, SDSU *2019*
Purdue College of Engineering Outstanding Research Award, Purdue University *2018*
The John L. and Patricia R. Rich Scholarship, Purdue University *2017*
The Outstanding Graduates of Undergraduate Students, Beihang University *2012*

ACADEMIC EXPERIENCE

Assistant Professor, Aerospace Engineering Department, San Diego State University *Aug 2018 - Onward*
Research Assistant, School of Aeronautics and Astronautics, Purdue University *Aug 2013 - May 2018*

INDUSTRY EXPERIENCE

Research Engineer in Control, Control Group, TuSimple, San Diego *May 2018 - Aug 2018*
Research Engineer Intern, Control Group, TuSimple, San Diego *May 2017 - Aug 2017*

PUBLICATION

Journal Publications

1. **Jun Chen**, "Integrated Request and Charging Scheduling for Autonomous Electric Aerial Vehicle System," *IEEE Transactions on Intelligent Transportation Systems*, Submitted, 2019.
2. Lijian Chen, Chiang Wen-Chyuan, Robert Russell, **Jun Chen** and Dengfeng Sun "Probabilistic Vehicle Routing Problem with Service Guarantees" *Transportation Research Part E*, Vol.111 (2018), pp. 149-164.
3. **Jun Chen**, and Dengfeng Sun, "Stochastic Ground Delay Program Planning in a Metroplex," *Journal of Guidance, Control and Dynamics*, Vol.41, No.1 (2018), pp. 231-239.

4. **Jun Chen**, Yi Cao and Dengfeng Sun, "Modeling, Optimization and Operation of Large-scale Air Traffic Flow Management on Spark," *Journal of Aerospace Information Systems*, Vol.14, No.9 (2017), pp. 504-516.
5. **Jun Chen**, Lijian Chen and Dengfeng Sun, "Air Traffic Flow Management under Uncertainty Using Chance-Constrained Optimization," *Transportation Research Part B*, 102 (2017): 124-141
6. **Jun Chen**, Daniel DeLaurentis, and Dengfeng Sun, "Dynamic Stochastic Model for Converging Inbound Air Traffic," *Journal of Guidance, Control and Dynamics*, Vol.39, No.10 (2016), pp. 2273-2283.

Conference Publications

1. **Jun Chen**, "Joint Request Scheduling and Charging Strategy for Autonomous Electric Aerial Vehicle System" *AIAA Scitech 2020 Forum*, Orlando, Florida, Jan, 2020.
2. Oliver Bojorquez and **Jun Chen**, "Aircraft Rerouting under Risk Tolerance during Space Launches," *AIAA Scitech 2020 Forum*, Orlando, Florida, Jan, 2020.
3. **Jun Chen**, "Integrated Routing and Charging Scheduling for Autonomous Electric Aerial Vehicle System," *AIAA/IEEE Digital Avionics Systems Conference (DASC)*, San Diego, CA, Sep. 2019
4. Oliver Bojorquez and **Jun Chen**, "Risk Level Analysis for Hazard Area During Commercial Space Launch," *AIAA/IEEE Digital Avionics Systems Conference (DASC)*, San Diego, CA, Sep. 2019
5. **Jun Chen** and Meng Li, "Chained Predictions of Flight Delay Using Machine Learning," *AIAA Scitech 2019 Forum*, San Diego, CA, Jan. 2019.
6. **Jun Chen**, Dengfeng Sun and Daniel DeLaurentis "Air Traffic Flow Management under Uncertainty Using Chance-Constrained Optimization," *poster session presented at the NEXTOR 20th Anniversary Workshop*, College Park, Maryland, Sep.2016.

INVITED TALKS

1. Computational Science Research Center, "Computational Optimization of Intelligent Air Transportation Systems Under Uncertainties", SDSU, San Diego, CA, Mar. 2019.
2. INFORMS Annual Meeting, "Ground Delay Program Planning with Uncertain Airport Capacity", Phoenix, AZ, Nov. 2018.
3. University of South Carolina, "Computational Optimization for Intelligent Air Transportation Systems", Columbia, SC, Feb. 2018.
4. Auburn University, "Networked Autonomous Systems Under Uncertainties: Modeling, Optimization, and Computation", Auburn, AL, Jan. 2018.

TEACHING EXPERIENCE

SDSU

- **AE 696 State-Space Flight Control**, SDSU *Fall 2019*
Instructor. (New developed) Graduate level course for linear system and control
- **AE 280 Methods of Analysis**, SDSU *Fall 2018, Spring 2019*
Instructor. (Restructured) Advanced math class for engineering students.

Purdue

- **AAE 561 Introduction to Convex Optimization**, Purdue University *Fall 2016, Fall 2017*
Guest Lecturer. Invited lecturer to cover stochastic optimization topics for the graduate level course "AAE 561 Introduction to Convex Optimization" in the School of Aeronautics and Astronautics, Purdue University.

- **AAE 564 Systems Analysis and Synthesis (Graduate level)**, Purdue University *Fall 2017*
Teaching Assistant. Assisted instructing for concepts and techniques used in the analysis and control design of linearizable systems. Subjects covered include state space modeling, linearization, controllability, observability, state feedback controllers and LQR.
- **AAE 203 Aeromechanics I**, Purdue University *Fall 2016, Spring 2017*
Guest Lecturer. Invited lecturer to cover flight dynamics topics for “AAE 203 Aeromechanics I” in the School of Aeronautics and Astronautics, Purdue University.
Teaching Assistant. Responsible for instruction and answering questions for fundamental concepts and principles of dynamics.
- **AAE 301 Signal Analysis For Aerospace Engineering**, Purdue University *Spring 15, 18*
Teaching Assistant. Responsible for instruction and answering questions for Fourier and fast Fourier transforms, estimation of natural frequencies and bode plots.

STUDENT SUPERVISION

Current Students

- Pengcheng Wu (Ph.D. Student)
- Oliver Bojorquez (M.S. Student)
- Nathan Dolan (M.S. Student)
- Kevin Ayala (Undergraduate)

M. S. Committees (member)

- Chitra Bhanu Barla, Spring 2019, Department of Computer Science

ACADEMIC SERVICES

Service to the College of Engineering

- Scholarship and Award Committee *2019-2020*
- Equipment Proposal Review Committee *2019*
- Calculus Task Force committee *2018-2019*

PROFESSIONAL SERVICES

Conference Session Organizer

Session Chair

Jan 2020

“GNC-05: Control and Autonomy I”
AIAA Scitech Forum, Orlando, Florida

Journal Referee

- AIAA Journal of Guidance, Control and Dynamics
- AIAA Journal of Aerospace Information Systems
- AIAA Journal of Air Transportation
- IEEE Transactions on Intelligent Transportation Systems
- Journal of Air Transport Management
- Transportation Research Part B
- Transportation Research Part C
- Transportation Research Part E
- Transportation Science
- Operations Research

Conference Referee

- .AIAA Scitech (GNC), 2020
- AIAA AVIATION Forum 2018, 2019
- AIAA Conference on Guidance, Navigation, and Control (GNC)
- American Control Conference (ACC)
- COTA International Conference of Transportation Professionals (CICTP2015, CICTP 2016, CICTP2018)
- 8th International Conference for Research in Air Transportation(ICRAT)

Membership

- American Institute of Aeronautics and Astronautics (AIAA)
- Institute of Electrical and Electronics Engineers (IEEE)
- Institute for Operations Research and the Management Sciences (INFORMS)