Dr. Thomas Prevot
Director of Engineering, Airspace Systems

Uber Technologies Inc., 579 20th St. San Francisco, CA 94107 United States of America

Experience

Director of Engineering, Airspace Systems, Uber Technologies Inc.   07/2017 - now

- Directs Engineering Uber's Elevate Cloud Services (ECS) and airspace systems. Develops the air traffic management concepts and technologies that will safely manage Uber's electric Vertical Take Off and Landing vehicles for the Uber Elevate aerial ridesharing initiative and Uber's drone delivery efforts. Collaborates with FAA, NASA and other industry partners on advancing concepts, performance and interoperability requirements as well as regulations for urban air mobility. Collaborates with the City of San Diego and the FAA on Uber's efforts to test safe food deliveries at scale under the DOT/FAA administered UAS Integration Pilot Program.

Research Aerospace Engineer, NASA Ames Research Center   02/2012 – 07/2017

- Led NASA's UAS Traffic Management (UTM) project in close collaboration with the FAA and hundreds of partners in industry, government and academia. Led UTM concept development in FAA/NASA research transition team. Created multi-modal UTM laboratory and simulation experience that is at the core of all UTM field and simulation tests. Excellent technical teamwork and outreach with UTM Principal investigator and UTM tech lead culminated in UTM adoption by FAA and industry.
- Led the technical progression and day-to-day operations in the Airspace Operations Laboratory, which is arguably one of the world's best laboratory for conducting human-in-the-loop research on air traffic control and management. Engineered the lab into becoming one of the most productive labs at and beyond NASA with a great mixture of over 30 on-site software developers, aero engineers, computer scientists and experimental psychologists. The lab is designed to play a major role in NASA's future research on urban air mobility.
- Led the integration of NASA's Airspace Technology Demonstration-1. Was one of the core members of the team that transitioned NASA's air traffic control concepts and technologies for Terminal Sequencing and Spacing (TSAS) from an idea through development, test and evaluation to the FAA for operational implementation by 2019

Senior Research Engineer, San Jose State University/NASA Ames Research Center   10/1997-01/2012

- Developed and evaluated human/autonomy interactions and the efficiency/safety trade-space for novel separation assurance concepts and technologies. Conducted large scale simulation evaluations with pilots and controllers in highly advanced simulation studies using trajectory automation on the ground and in the air to augment or replace the air traffic controllers tasks.
- Conducted large-scale simulation research on trajectory-based air traffic control through design and implementation of innovative technologies that laid the ground-work for a number of the FAA's trajectory-based operations concepts and technologies.
- Invented and developed NASA's premier air traffic simulation capability: The Multi-Aircraft Control System MACS. Created from scratch out of frustration with existing capabilities in 2002. MACS became the most effectively used simulation tool for human-in-the-loop simulations at NASA and beyond. Managed the MACS software development team and led its transformation towards UTM and the new era of aviation.

Postdoctoral Researcher, National Research Council/NASA,   09/1996-09/1997

- Investigated flight crew support for future air traffic management. Analyzed, designed and evaluated data link systems and a vertical situation display for glass cockpit flight decks.

Flight Management Engineer, Consultant,   07/1995-08/1996

- Developed engineering guidelines, designed and specified advanced flight management functions for projects funded by the European Commission and commercial flight management products.

Technical Officer, German Air Force,   07/1985-06/1995

- Served as Technical Officer and researcher at the Institute for Systems Dynamics and Flight Mechanics at the Munich University of the German Armed Forces. This institute pioneered self-driving car technologies, especially vision-based driving (E.D. Dickmanns) as well as intelligent flight crew assistance technologies.

- Developed airborne flight planning system that can act at varying levels of interaction from fully autonomous to highly cooperative. Tested in simulation and flight tests as part of the Cockpit Assistant System CASSY. The underlying process was patented as flight correction process (US patent 6163744 A)which has been cited and referenced by numerous major aerospace companies that are now implementing similar functions.

Education

PhD in Aerospace Engineering (magna cum laude) (Dr.-Ing.)   10/1995

Thesis on the development and evaluation of an autonomous situation assessment and flight planning module that achieves an effective pilot/machine interaction by smartly allocating the functions between human and automation

Diploma in Aerospace Engineering (Dipl.-Ing.)   03/1990

Thesis on flight planning

Other

- Was Member of the Research Engineering and Development Advisory Committee (REDAC) to the FAA (Human factors subcommittee)
- Authored over 100 technical papers and articles (50+ as first author)
- Patent: Aircraft Flight Correction Process
- Won over 20 NASA and external awards
- Fluent in German and English
- Excellent programming skills.
- Well versed in software management tools
- Private pilot license