

Papers Presented at the AIAA SciTech Forum and Exposition 2022

San Diego, California, USA and Online 3 – 7 January 2022

ISBN: 978-1-7138-5415-9

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

The contents of this work are copyrighted and additional reproduction in whole or in part are expressly prohibited without the prior written permission of the Publisher or copyright holder. The resale of the entire proceeding as received from CURRAN is permitted.

For reprint permission, please contact AIAA's Business Manager, Technical Papers. Contact by phone at 703-264-7500; fax at 703-264-7551 or by mail at 34922 Uwptkug'Xcmg{'Ftkxg."Uwkg'422, Reston, VA 20191, USA.

TABLE OF CONTENTS

SOFTWARE I
Component-Based Development of CFD Software FUN3D
Automated Test Case Generation for the Verification of System and High-Level Software Requirements for Fly-By-Wire Platforms
SOFTWARE II
Guidelines and Regulatory Framework for Machine Learning in Aviation
Machine Learning Verification and Safety for Unmanned Aircraft - A Literature Study
Toward Design Assurance of Machine-Learning Airborne Systems
SOFTWARE III
A Modular Subset Simulation Toolbox for Matlab
Efficient Estimation of Probability of Exceeding Performance Limits for Automatic Landing Systems Using Subset Simulation
Continuous Integration of Optimal Control Based Flight Control Law Clearance
SOFTWARE IV
A Basilisk-Based Benchmark Analysis of Different Constrained Attitude Dynamics Planners
Author Index