Curriculum Vitae

Academic title	Jun-Prof. Dr.-Ing. (equivalent to Assistant Professor)
First name, name	Jane Jean, Kiam
Nationality	
Professional Affiliation	University of the Bundeswehr Munich Department of Aerospace Engineering Werner-Heisenberg-Weg 39 Neubiberg, 85577, Germany

Project Experience

Est. 2022-2024	**Swarm-coordination – BAAINBw** • Research study with WIWeB on the applicability of AI methods in the coordination of a swarm of UAVs • Work package contribution: Multi-vehicle routing for swarms, hardware-in-the-loop tests, onboard reactive avoidance • Role: Principle investigator for University of the Bundeswehr Munich
Est. 2022-2025	**MENTHON – BMBF** • Project consortium: HAT.tec GmbH, AID Innovation GmbH, University of the Bundeswehr Munich (Associate partners: Bergwacht Penzberg, Deutsche Gesellschaft zur Rettung Schiffbrüchiger - DGzRS) • Work package contribution: Design, implementation and demonstration of AI methods for coordinating multiple agents (i.e. human first responders, UAVs, manned vehicles) in a Search-and-Rescue mission • Role: Principle investigator for University of the Bundeswehr Munich
2022-2025	**Intelligent Control of Highly Over-Actuated Flight System - Munich Aerospace** • Research group: German Aerospace Center, Technical University of Munich, University of the Bundeswehr Munich • Work package contribution: Design and development of AI methods for an automated fault-tolerant flight guidance system with a focus on usability and explicability • Role: Supervision of the doctoral candidate hosted at the University of the Bundeswehr Munich
2021-2025	**MOREALIS – LuFo, BWMi** • Project consortium: SFL GmbH, Star Healthcare Management GmbH, German Aerospace Center, University of the Bundeswehr Munich • Work package contribution 1: Design and development in human-AI interaction methods to be integrated into an onboard cockpit • Work package contribution 2: Design and development of an automated emergency landing system (using model-based task and motion planning) • Role: Principle investigator for University of the Bundeswehr Munich
2015-2018	**StraVARIA – Ludwig Bölkow Campus** • Project consortium: Airbus Defense and Space GmbH, German Aerospace Center, Munich University of Applied Sciences, University of the Bundeswehr Munich • Work package contribution: Software and algorithm development for automated mission planning for multiple heterogenous unmanned vehicles operating in a dynamic environment • Role: Research associate and participation in system integration and demonstration

Professional Experience

Since January 2022	**Junior professor, Research associate, Department of Aerospace Engineering, University of the Bundeswehr Munich** • Research projects on AI methods for planning and decision making in complex and dynamic environments • Research project acquisition (e.g. Horizon Europe, H2020, BMBF, LuFo-BMWi, DFG, BAAINBw) • Teaching and supervision of student thesis
January 2020-December 2021	**Post-doctoral research associate, Department of Aerospace Engineering, University of the Bundeswehr Munich** • Research projects on AI methods for planning and decision making in complex and dynamic environments • Research project acquisition (e.g. Horizon Europe, H2020, BMBF, LuFo-BMWi) • Supervision of student theses
January 2015-December 2019	**Research associate, Department of Aerospace Engineering, University of the Bundeswehr Munich** • StraVARIA research project long-endurance mission planning for multiple UAVs in dynamic environments • Supervision of student theses
July 2013-October 2015	**Software developer, Advanced Navigation Solutions (ANavS), Munich** • Development of algorithms for precise position tracking and attitude determination
March 2012-May 2013	**Working student, Technical University of Munich** • Software development for real-time GPS-based tracking of football players • Software development for real-time attitude determination of a driving car

Education / Qualifications

2015 - 2019	**Doctoral thesis (Dr.-Ing.) at University of the Bundeswehr Munich (Germany)** • „AI-Based Mission Planning for High-Altitude Pseudo-Satellites in Time-Varying Environments" • Grade: "*summa cum laude*"
2009 - 2013	**Double-Master from Technische Universität München (Germany) and Télécom Bretagne (France)** • Electrical Engineering and Information Technology • VDI-prize for Master's thesis "*Low-cost GPS-based Compass with Reliable Ambiguity Resolution and Cycle Slip Correction*" • Distinction for exceptional academic performance in the fourth semester at Télécom Bretagne
2006-2009	**Lycée Polyvalent Bellevue (France)** • Preparatory class (Class préparatoire für Grandes écoles) in Mathematics and Phyics (MPSI-MP)
2005-2006	**University Nice Sophia-Antipolis (France)** • French as foreign language (B2-C1)
2004-2005	**Taylor's College (Malaysia)** • Cambridge GCE A-Level

Teaching Experience

2022-	**Applicable AI methods in Decision-Making Processes (Master's course)** • Course content: - Forward search algorithm and probability theory - Automated planning methods - Sequential decision-making - Machine learning methods (supervised, unsupervised, reinforcement and deep learning)
2020-	**Participation in other courses "Flight Guidance and Flight Automation" (In German "Flugführung und Flugautomation")** • Flight guidance and automation: organization of the seminaries on current AI research topics applicable for automation in aviation • Software development: supervision of practical exercises in C++

Services

Editor role for journals

- Topic coordinator and co-editor for Frontiers in Robotics and AI (Section "Computational Intelligence in Robotics") on *"AI and Robotics for Increasing Disaster Resilience in Modern Societies"* – (in 2022)

Review services for journals

- Member of the reviewer board: MDPI Information Journal
- Regular reviewer: IEEE Aerospace and Electronic Systems Magazine, MDPI Sensors, MDPI Remote Sensing, MDPI Applied Sciences, MDPI Drones, IEEE Access, World Journal of Engineering (*a total of 9 journal articles reviewed in 2021*)

Services for conference

- ICAPS Hierarchical Planning (HPlan) Workshop organizer (in 2021 and 2022)
- Reviewer and PC-member of the ICAPS Hierarchical Planning Program Committee (in 2021 and 2022)
- Reviewer of the ISAIC 2021 (International Symposium on Automation, Information and Computing)

Invited Talks

2022	**6th European Congress of Conservation Biology** • Topic on *"Assisting Rangers to Halt Poaching Activities with Green Stochastic Games"*
August 2019	**Tech Talk at Airbus** • Topic on *"Mission Planning for HAPS"*

Selected Relevant Publications (Peer-reviewed and published manuscripts)

June 2022	*Proposing an Architecture to Integrate Stochastic Game and Automated Planning Methods into a Comprehensive Framework: CHIP-GT* **J.J. Kiam**, R. Sabbadin and C. P.C. Chanel. ICAPS (DAPSPAC) Workshop on Deception Against Planning Systems and Planning in Adversarial Conditions (DAPSPAC), 2022 (Accepted)
October 2021	*Temporal Hierarchical Task Network Planning with Nested Multi-Vehicle Routing Problems – A Challenge to be Resolved* **J.J. Kiam**, P. Bercher, and A. Schulte. In Proceedings of the 4th ICAPS

	Workshop on Hierarchical Planning (HPlan 2021), pages 71–75.
February 2021	*A Fault-Tolerant Automated Flight Path Planning System for an Ultralight Aircraft* B. Santos León, **J.J. Kiam**, and A. Schulte, Springer Lecture Notes in Computer Science (LNAI)
February 2021	*Anticipating Human Decision for an Optimal Teaming between Manned and Unmanned Systems* **J.J. Kiam**, M., Dudek and A. Schulte, International Conference on Intelligent Human Systems Integration (IHSI)
February 2021	*Hierarchical Mission Planning with a GA-Optimizer for Unmanned High Altitude Pseudo-Satellites* **J.J. Kiam**, E. Besada-Portas, and A. Schulte, Sensors 21-5, 2021
November 2020	*Model-Based Automated Flight Path Planning for an Ultralight Aircraft* B. Santos León, **J.J. Kiam**, and A. Schulte, IPS-RCPA@AIxIA, 2021
June 2020	*An AI-based Planning Framework for HAPS in a Time-Varying Environment* **J.J. Kiam**, E. Scala, M. Ramirez Javega and A. Schulte, The 30th International Conference on Automated Planning and Scheduling (ICAPS)
June 2019	*GA-Guided Task Planning for Multiple-HAPS in Realistic Time-Varying Operation Environments* **J.J. Kiam**, E. Besada-Portas, A. Schulte, The Genetic and Evolutionary Computation Conference (GECCO)
Februar 2019	*Hierarchical Planning Guided by Genetic Algorithms for Multiple HAPS in a Time-Varying Environment* **J.J. Kiam**, V. Hethke, E. Besada-Portas, A. Schulte, International Conference on Intelligent Human Systems Integration (IHSI)
Februar 2019	*Using AI-Planning to Solve a Kinodynamic Path Planning Problem and its Application for HAPS* **J.J. Kiam**, E. Scala, A. Schulte, International Conference on Intelligent Human Systemes Integration (IHSI)
October 2018	*Multilateral Mission Planning in a Time-Varying Vector Field with Dynamic Constraints* **J.J. Kiam**, A. Schulte, IEEE International Conference on Systems, Man and Cybernetics (SMC)
Juni 2018	*Using a Hybrid AI-Planner to Plan Feasible Flight Paths for HAPS-Like UAVs* **J.J. Kiam**, E. Scala, M. Ramirez, A. Schulte, 6th ICAPS Workshop on Planning and Robotics (PlanRob)
März 2018	*Multiphysical Simulation of a Semi-Autonomous Solar Powered High Altitude Pseudo-Satellite* R. Müller, **J. J. Kiam**, F. Mother, IEEE Aerospace Conference (AeroConf)
September 2017	*An Autonomous Mission Management System to Assist Decision Making of a HALE Operator* V. Hehtke, **J. J. Kiam**, A. Schulte, Deutscher Luft– und Raumfahrtkongress (DLRK)
March 2017	*Multilateral Quality Mission Planning for Solar-Powered Long-Endurance UAV* **J.J. Kiam**, A. Schulte, IEEE Aerospace Conference (AeroConf)
September 2016	Autonome Wettervermeidung bei einem unbemannten, solarbetriebenen Flugzeug mit extrem langer Flugdauer F. Mother, A. Klöckner, **J.J. Kiam**, M. Köhler, A. Pollok, A. Knoll, A. Schulte, Deutscher Luft– und Raumfahrtkongress (DLRK)

August 2016	*Fast Subset Path Planning/ Replanning to Avoid Obstacles with Time-Varying Probabilistic Motion Patterns* **J.J. Kiam**, M. Gerdts, A. Schulte, 8th European Starter AI Researcher Symposium (STAIRS-ECAI)
März 2014	*Calibration of Magnetic Field Sensors with two mass-market GNSS receivers* P. Henkel, P. Berthold, **J. J. Kiam**, 11th Workshop on Positioning, Navigation and Communication (WPNC)
Januar 2014	*Cost-effective cooperative RTK positioning of rowing boats* **J. J. Kiam**, J. M. Cardenas, P. Henkel, Proc. of ION International Technical Meeting (ITM)
September 2013	*Maximum a posteriori probability estimation of integer ambiguities and baseline* P. Henkel, **J. J. Kiam**, Proceedings IEEE ELMAR