



M.A. Amiri Atashgah

Assistant Professor, Aerospace Engineering /Dynamics and Control Division, Faculty of New Sciences and Technologies, University of Tehran

Geophysics Building No. 3, Amir Abad, North Kargar Street, Tehran, Islamic Republic of Iran 14395-13

Work: +98 21 6111 8429

atashgah@ut.ac.ir; maa.atashgah@gmail.com

Research Interests

Guidance, Navigation and Control

- Modeling and Simulation, Analysis, Test and Implementation
- Software and Hardware in the Loop
- Vision Based Navigation (SLAM/Mono-SLAM)
- Terrain Relative Navigation (TERCOM/DSMAC)
- Sensor Fusion
(INS/GPS/Sonar/Lidar/Radar/Magnetic/Vision/TERCOM/DSMAC)

Real-time Human-in-the-Loop Simulation of Aerospace Systems

- Airplane (UAV/Transport)
- Satellite
- Mission Area Elements

Virtual Reality

- Computer Graphics (DirectX/ OpenGL (OSG, Delta 3D)
- Terrain Engine
- Weather Engine

Affiliations

Faculty Member. (At Present) Assistant Professor, Aerospace Engineering /Dynamics and Control Division, Faculty of New Sciences and Technologies, University of Tehran (2013-Present)

Researcher. Iranian Space Agency, Aerospace Research Institute, Satellite Modeling and Visual Simulation (2011-2013)

Developer /Author. MRPT international project (Mobile Robots Programming Toolkit), (2008-2009) (www.mrpt.org/authors)

Researcher. Sharif University of Technology, (2005-2010), Developing a visual system software for a full Motion-Vision flight simulator of a helicopter/ UAV Mission Design/TERCOM/Space Systems modeling and Simulation/Virtual Reality/Fighter Simulation

Educations/ Academic	Courses Taught: Flight Dynamics Advanced Flight Dynamics Advance Control Systems Guidance and Navigation 1 Advanced Orbital Mechanics Spacecraft Dynamics and Control Advanced Numerical Methods Advanced Engineering Mathematics Educations: Ph.D, Aerospace Engineering, Flight Dynamics and Control, Feb 2006 - Jul 2011, Sharif University of Technology (First Rank in the country) Dissertation: Aerial Vision-Based Navigation and Monitoring in Special Conditions MS, Aerospace Engineering, Flight Dynamics and Control, Sep 1999 - Sep 2001, Sharif University of Technology BS, Aerospace Engineering , Sep 1995 - Jul 1999, Sharif University of Technology
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Skills	Aerospace - • STK • USAF Digital DATCOM • AAA (Advance Aircraft Design and Analysis) • FlightGear international open source Flight Simulator • JSBSim Programming - • C/C++ (Linux /Windows) • MATLAB; GUI, SIMULINK(Aeospace, FDC, AeroSim toolboxes), Virtual Reality, Dials and Gauges, Identification, Classic Control, Optimal Control and Neural Nets Toolboxes • Pascal/Delphi • BASIC • Maple • Max Script
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Honors	-Standing 1st place, PhD Degree, Aerospace Engineering
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and Awards	Department -Standing 3d place, MS Degree Entrance Exams in the country -Standing 2nd place, MS Degree, Aerospace Engineering Department -Standing 2nd place, BS Degree, Aerospace Engineering Department -Reviewer of Scientific Papers (http://mjmec.ir/) -Umpire of Innovative UAV Design Competition (www.iudc.ir/)
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Publications	2013: • M A Amiri Atashgah, P Gholampour, S M B Malaek, Performance Analysis of Image Deblurring in the loop of an Aerial Mono-SLAM, IMechE Part G: Journal of Aerospace Engineering • M A Amiri Atashgah, S M B Malaek, Prediction of Aerial-image Motion Blurs Due to the Flying Vehicle Dynamics and Camera Characteristics in a Virtual Environment, IMechE Part G: Journal of Aerospace Engineering, July 2013 vol. 227 no. 7 , 1055-1067 2012: • M A Amiri Atashgah, S M B Malaek, An Integrated Virtual Environment for Feasibility Study and Implementation of an Aerial MonoSLAM, Journal of Virtual Reality (Springer), 2012 , Vol. 16 No. 3, 215-232 2011: • M A Amiri Atashgah, S M B Malaek, A simulation environment for path and image generation in an aerial single-camera vision system, IMechE Part G: Journal of Aerospace Engineering, May 2011, 225(5), P. 541-558 2010: • M.A. Amiri Atashgah, S.M.B Malaek, Feasibility Study and Virtual Implementation of an Aerial MonoSLAM, Aero2010, Tehran, Iran. 2010 2009: • M.A. Amiri Atashgah, S.M.B, A 3D Engine for Image Generation in an Aerial Single Camera Vision System, Simulation Conference, Tehran, Iran, 2009 2008: • M.A. Amiri Atashgah, Numerical solution of quadratic Riccati Differential equation by Homotopy- Pade analysis method,
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Proceeding of 8th Iranian Aerospace Society Conference , Tehran, Iran, Jan. 2008.

- M.A. Amiri Atashgah, F. Saghafi, A Becoming Approach in Development of the Visual System Software of a Flight Simulator", Proceeding of 8th Iranian Aerospace Society Conference , Tehran, Iran, Jan. 2008.

- Y. Saeedi, S, Ghazanfarinia, M.A. Amiri Atashgah, Preliminary Design of a Light Business Jet. ,Proceeding of 8th Iranian Aerospace Society Conference , Tehran, Iran, Jan. 2008.

2005:

- M.A. Amiri Atashgah , N. Nasiri, M. Bahrami, Developing a flexible Modeling and Simulation Environment for a Sounding Rocket , ESM 2005, Porto, Portugal

2002:

- F. Saghafi, M.A. Amiri Atashgah, Developing a Simulation Environment for Feasibility study of converting a target unmanned aircraft to an anti helicopter TV guided weapon. , Proceeding of 4th Iranian Aerospace Society Conference, Tehran, Iran, December 2002.