Leandro G. Barajas, Ph.D., PMP

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QUALIFICATIONS SUMMARY

Creative, effective, and accomplished manager and expert in robotics and automation with multi-disciplinary experience in R&D, systems integration and technology management at a global scale for product, service, and manufacturing applications. Broad applied expertise in project management, global collaboration, external funding & leveraging, intellectual property management, technology & strategy planning, innovation forecasting & road mapping as well as technology transfer. Distinguished with **over 60 corporate, academic, and professional awards**. Authored over **60 technical publications, 40 patents & patent applications**, 7 Defensive Publications, and 9 Trade Secrets. Elected IEEE Senior member and AIAA Associate Fellow.

EDUCATION

2000- 2003   GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA, USA
   Doctor of Philosophy (Ph.D.) in Electrical & Computer Engineering.
1999-2000   GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA, USA
   Master of Science (M.S.) in Electrical & Computer Engineering
      - Major in **Control Systems & DSP**; Minor in **Mathematics**
1991-1996   UNIVERSIDAD DISTRITAL FRANCISCO JOSÉ DE CALDAS, Bogotá, Colombia
   Bachelor of Science (B.S.) in Electrical Engineering, **Class Valedictorian**
      - Major in **Telecommunications & Control Systems**; Minor in Medical Electronics

INDUSTRY EXPERIENCE

DYNETICS, INC., MISSILE AND AVIATION SYSTEMS DIVISION, HUNTSVILLE, AL
2012-Present   **Principal Eng. & Section Manager**. Unmanned Systems and Aerodynamics Department
GENERAL MOTORS, GM R&D, MANUFACTURING SYSTEMS RESEARCH LABORATORY
2008-2012   **Staff Researcher**. Advanced Robotics Group
2007-2008   **Senior Plant Engineer**. Orion (MI) General Assembly Plant
2006-2007   **Senior Manufacturing Engineer**. ME, Controls, Conveyors, Robotics & Welding Division
2003-2006   **Senior Research Engineer**. Plant Floor Systems & Controls Group
GEORGIA INSTITUTE OF TECHNOLOGY, MANUFACTURING RESEARCH CENTER (MARC), ATLANTA, GA.
1999-2003   **Graduate Research Assistant**. Center for Board Assembly Research

TECHNICAL SKILLS

Engineering: Matlab/Simulink, Minitab, MathCAD, Mathematica, Maple, QFD Capture, DExpert, LabVIEW, NI-DAQ, Excel Programming, R, WEKA, Wireshark, PuTTY
Robotics: Robot Operating System (ROS), Microsoft Robotics Developer Studio, Industrial Robotics, Humanoid Robotics, Obstacle Avoidance, Simultaneous Localization and Mapping (SLAM), Kalman Filtering, Particle Filters, Sensor Fusion, PID Control, Adaptive Control Robot Vision, Motion Planning, Object Grasping and Manipulation, Imitation Learning, Machine Learning, Diagnostics, Prognostics and Health Management
Techniques: Data Mining, Big Data Analytics, Statistical Analysis, Clustering, Classification, Predictive Analytics, Anomaly Detection, Genetic Algorithms, Neural Networks, Data Reduction, Regression, Sequence Mining, System Identification, Support Vector Machines, Model Checking, Data Visualization
Comp. Vision: OpenCV, Matlab IP/IA, MVTech Halcon, Cognex VisionPro, Labview NI Vision/IMAQ, ORB, SIFT, SURF, Keypoint Detectors and Descriptors, Object Classification and Clustering, Visual Servoing, Image Segmentation, Semantic Labeling
Programming: Microsoft Visual Studio .NET (C#, VB, C++), VBA, Java, JavaScript, Python, PHP, C++, C, Dynamic C, SQL, XML, HTML, UML, Fortran, Perl, Delphi, Pascal, Arduino, Processing, AutoHotkey and assembler for TMS320Cxx, x86, Z80, 68xxx, PIC and 8051/52
CAD/CAE: Solidworks, Polyworks, Meshlab, Blender, AT-3D, Open CASCADE, AutoCAD, Makerbot Desktop, PSpice, Multisim (Electronics Workbench), Electra E7 for Visio, OrCAD and Eagle
Telecomms: DSS/CCR, XML, TCP/IP, UDP, SOAP, Modbus; IEEE 802.x: WiFi, Bluetooth, Zigbee, WiMax, Ethernet; Serial Communications: RS-232, RS-422, RS-485, LVDS, SPI, I2C, OneWire, USB, Fiber Channel, MIL-STD-1553A/B