

Vladimir OVOD

6802 Sweetwater Way

Goleta, CA, 93117

www.asdvi.com

<https://www.linkedin.com/in/vovod>

Mobile: (805) 284-7553

E-mail: vovod@yahoo.com

Over 15 Years Experience in Systems Engineering, Design, Integration and Testing of Electro-Optical/IR Systems, Sensors and Imagers for Measurements, Control, and Characterization from User Stories / Requirements - through Military-Proven Model-Based Design, MKS/PTC tool and Agile SCRUM management, and Metric-Driven Verification - to Integration, Automated Tests, Production, and Applications

- Night vision systems (for FLIR; Air Force Research Laboratory; Raytheon; Teledyne, Inc.; SE-IR Corporation)
- Focal Plane Arrays (FPA) sensors/systems for target detection and tracking
- Image Processing (FPGA, Matlab, C)
- Laser Detection and Ranging (LADAR)
- Laser systems for automated tests and measurements
- Systems engineering of complex IR/EO-systems
- Phase Doppler Anemometers (PDA)
- Imagers and control systems

Over 15 Years in Algorithm / Software Development and Systems Modeling / Simulations

- Electro-optical and IR systems/sensors
- Algorithms and software for DSP and image processing
- Firmware and software design using Matlab, Xilinx Sysgen, ISE, C, Visual Basic
- Automation of algorithms- and system tests
- Embedded software to control hardware

PATENTS (*algorithms claimed*)

1. V. Ovod: “*Method and Apparatus for Protection from High Intensity Light*” (*patented worldwide*):
 - European patent EP # 2547093B1. Granted on April 4, 2016
 - German patent DE # 60 2012 017 561.3. Granted on June 16, 2016
 - Canadian patent CA # 2777974C. Granted on April 26, 2016
 - Japanese patent JP # 5745469B2. Granted on July 8, 2015
 - USA patent US # 8,878,920B2. Granted on November 4, 2014
2. V. Ovod. USA US # 20150116470A1. “*Method and Apparatus for Controlling Light Output Intensity and Protection from High Intensity Light*”. Pending; submitted on April 30, 2015.

Note: The above patents relate to Radiometry-based *multi-target detection (LIDAR as Advanced Doctor Assistance System (ADAS) for patient safety)*; SW with control algorithms implemented in a broad spectrum of KSI products.

Publications

To look at over 30 technical papers, go to www.asdvi.com.

EDUCATION

- Ph.D. in electro-optical engineering. Ph.D. thesis “*Design, simulation, modeling, and metrological improvement of Laser Particle Size Analyzers*”.
- M.S. in electrical engineering. M.S. thesis “*Suppression of bulk waves in RF band-pass filters based on surface acoustic waves (SAW) propagation*”.

Note: The research and development results relate to *LADARs for detection, tracking, recognition, sizing, characterization, and velocimetry of micro-targets*.

Certificates / Trainings

- Embedded Systems Development
- Agile SCRUM development process of software and Systems Engineering
- DSP Implementation Techniques for Xilinx FPGA

EXPERIENCE

FLIR Systems, Inc. / Aerospace Solutions, Goleta, CA

March 15 – July 16

SYSTEMS ENGINEERING CONSULTANT

- Developed Matlab code for data acquiring, analysis, characterization, and for automated radiometric tests of FPA IR sensors with programmable test equipment using National Instruments General Purpose Interface Bus (GPB, IEEE-288), USB, RS232, and Ethernet.
- Developed Matlab code for automated tests of embedded software and performed validation of FPA IR sensors.
- Trouble-shot and improved C-code for image processing. Improved performances of IR sensors.

Karl Storz Imaging, Inc. (KSI), Goleta, CA

Sept 06 – March 15

SENIOR SYSTEMS ENGINEER

- Used Agile SCRUM methodologies while leading engineering teams in SW, FW and HW design of high-definition imagers.

- Defined architecture of control units for imagers.
- Developed systems requirements documentation, Interface Control Documents (ICD), and Integration and Test Plans.
- Used MKS/PTC tool for systems requirement maintenance and soft- and hardware bug tracking. Used *Git* for software maintenance and source control.
- Executed Integration and Test Plans. Designed hardware, firmware (VHDL, Xilinx Sysgen, ISE, Matlab) and software for data/image processing, and GUI for integration and automation tests of medical electro-optical systems with programmable test equipment. Reduced duration of systems / sensors tests from a week to a few hours and eliminated costs of test equipment.
- Developed algorithms and translated them from Matlab into C for automated tests. Using Matlab Compiler, designed executable applications including GUI for use by other engineers.
- Developed algorithms for radiometry-based multi-target detection (LADAR as Advanced Doctor Assistance System (ADAS) for patient safety) for adaptive control of endoscopic light sources (*patented worldwide*: USA, Japan, Europe, Germany, and Canada; see details on Page 1 under *Patents*).
- Translated image processing and control algorithms from Matlab into C and implemented C-algorithms in microcontroller which sufficiently reduced time of design, integration, and testing of embedded software.
- Tested algorithms using Software- and Hardware-in-Loop simulation. Developed embedded code for Built-in-Tests (Matlab code translated into C and VHDL).

Teledyne Imaging Sensors, Camarillo, CA

Jun 10 – Jan 12

CONSULTANT

- Developed FPGA-based code (VHDL, Xilinx Sysgen, ISE, Matlab) for scene-based non-uniformity correction (SB NUC) in FPA infrared imaging sensors for military applications.
- Designed Matlab model of SB NUC correction.
- Coordinated implementation, test, and verification of SB NUC.

Nova Sensors, Solvang, CA

Apr 02 – Sept 06

SENIOR SCIENTIST

- Designed a Matlab model of automated low-noise tests of Focal Plane Arrays (FPA) for night vision sensors for Raytheon.
- Developed a broad spectrum of IR image processing algorithms for high frame rate acquisition, detection and tracking of military targets, and for rejection of cluttered backgrounds.
- Implemented the above algorithms in Field-Programmable Gate Arrays (FPGA) sensors at Air Force Research Laboratory (AFRL/MNGI) and SE-IR Corporation for commercial and military applications. SW and FW tools: Matlab, Simulink, Xilinx System Generator, and Xilinx Project Navigator (ISE).
- Presented advanced FPGA-based image processing package for FPA sensors at SPIE Symposiums in 2005 and 2006.

Fujant, Inc., Carpinteria, CA

Mar 99 – Nov 01

SENIOR SYSTEMS ENGINEER

- Developed DSP and embedded software for CDMA (code division multiple access) RF power amplifiers, including algorithms for adaptive power managements, self-characterization, and autonomous failure detection and failure recovery of cellular amplifiers (SW design tools: Matlab, C, Code Composer Studio™, Visual Basic).
- Developed algorithms and translated them from Matlab into C to control DSP and FPGA for automated tests of CDMA RF power amplifiers.
- Performed system-level analysis, optimization, test, and integration. Used digital and analog test equipment.