

## Marvin L. Smith

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### CONTACT INFORMATION

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Reno, NV 89503

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*Github:* <http://github.com/marvins>

### WORK EXPERIENCE

#### **Senior Software Engineer, ISS Division**

Sierra Nevada Corporation, Sparks, NV  
January 2012 - Present

- Projects:
  - Research and Development
  - Gorgon Stare Wide-Area Surveillance Program
- Tasks:
  - Currently working on image processing for wide-area surveillance systems. Primary focuses are in remote sensing, high-performance computing, camera calibration, orthographic rectification, and photogrammetry.
  - Assisted with development of OS security hardening procedures and ensured compliance with DoD Security Technical Implementation Guides (STIGs) for Windows and Linux systems.
  - Assisted with training of technician personnel for project software and hardware.

#### **Staff Sergeant, Nevada Air National Guard,**

Guidance and Control Shop, Avionics Flight, 152 MXS, Nevada Air National Guard  
August 2006 - August 2012

- Instrumentation and Flight Controls Journeyman (2A553B).
- Maintenance and repair of USAF C-130 Guidance and Control Systems. Systems include Engine Instrumentation, Autopilot, Fuel Quantity, Digital Flight Data Recorder, and Flight Director.
- Operation Enduring Freedom Deployment, Bagram AB, Afghanistan  
August 2009 - December 2009
- Operation Iraqi Freedom Deployment, Talil AB, Iraq  
October 2007 - January 2008
- Active Security Clearance

#### **Intern, Intelligent Robotics Group, NASA Ames Research Center,** Mountain View, CA

- June 2011 - August 2011  
Developed a crater detection algorithm for use in planetary surface characterization and terrain reconstruction. Primary use is for the alignment of LIDAR data from the LRO Satellite to images taken from the Apollo 15 and 17 missions.
- June 2010 - August 2010  
Developed algorithms for the open-source NASA Vision Workbench library which removes outliers from stereo reconstructions of the lunar surface.

## Undergraduate Assistant, Computer Vision Lab,

Department of Computer Science and Engineering, University of Nevada, Reno  
August 2010 - May 2011, August 2011 - January 2012

- Teaching Assistant
  - CS 302, Data Structures: CS 474, Image Processing: CS 485, Computer Vision

## TECHNICAL SKILLS

- **Programming Languages:** C++, Python, Matlab,  $\text{\LaTeX}$ , PowerShell, and Bash.
- **Software Experience:**
  - Image Processing : OpenCV, Matlab, NASA Vision Workbench
  - GIS : GDAL, GeoServer, libLAS (lidar), and GeographicLib
  - Distributed Computing : MPI, IBVerbs, RDMA, and BSD Sockets
  - Python : matplotlib, NumPy, SymPy, PyQt
- **Open-Source Projects Contributed:**
  - OpenCV, NASA Vision Workbench
- **System Administration:** Secure Configuration Management deployment (git, svn, Artifactory), constructing software build systems (Jenkins), and some computer networking.
- **Mechanical:** Electronics repair, Soldering, Hand/Power Tools, use of Military/Civilian technical manuals and wiring diagrams.

## PUBLICATIONS

- Technical Reviewer  
Prateek Joshi, “OpenCV with Python By Example”, Packt Publishing, October 2015, [link](#)
- Technical Reviewer  
Garcia, Aranda, Suarez, Tercero, “Learning Image Processing with OpenCV”, Packt Publishing, March 2015, [link](#)
- Marvin Smith, Ara Nefian, “Outlier removal in stereo reconstructions of orbital images”, International Symposium on Visual Computing, 2010.

## EDUCATION

### University of Nevada, Reno, Reno, NV

Bachelors of Science, Computer Science (Graduated: May 2012)

- UNR GPA: 3.65, CS GPA: 3.6
- Adviser: Dr. George Bebis
- Areas of Interest: Computer Vision, Image Processing
- Specialized Undergraduate Courses: Computer Vision, Advanced Computer Vision, Artificial Intelligence, Simulation Physics, and Image Processing.
- Graduate Courses Completed: Machine Learning, Computer Graphics, Patent Law (Business School).

**Nevada Air National Guard** 152 Maintenance Squadron, 152 Air Wing, Reno, NV

2A553B, Instrumentation and Flight Controls Journeyman

- Instrumentation and Flight Controls Craftsman Course
- Airman Leadership School, Correspondance, May 2011
- Instrumentation and Flight Controls Apprentice School,  
Sheppard Air Force Base, TX, June 2007
- Electronic Principles School,  
Keesler Air Force Base, MS, January 2007
- Basic Military Training,  
Lackland Air Force Base, TX, November 2006

#### VOLUNTEERING

**Coach, Codebusters First Tech Challenge Robotics Team**

Boys and Girls Club of Truckee Meadows

May 2016 - Present

**Mentor, Boys and Girls Club of Truckee Meadows**

March 2015 - May 2016

#### GROUPS

President, Association for Computing Machinery, UNR (Jan 2010 - May 2011)

#### REFERENCES

- Dr. George Bebis  
Chair, Department of Computer Science and UNR Computer Vision Lab Director  
Phone: 775-784-6463
- Dr. Ara Nefian  
Senior Research Scientist, NASA Ames Research Center  
Phone: 650-604-0845
- Technical Sergeant Rebecca Varnum  
Guidance and Control Shop Supervisor, 152 MXS, NVANG  
Phone: 775-788-4565