Marvin L. Smith

Contact Information	207 Imperial Blvd, Reno, NV 89503	*E-mail:* marvin_smith1@me.com *Cell:* (775) 997-4261 *www:* http://marvinsmith3.wordpress.com *Github:* http://github.com/marvins

Work Experience

Software Engineer, ISR Division
Sierra Nevada Corporation, Sparks, NV
January 2012 - Present

- Projects:
  - Research and Development
  - Gorgon Stare Wide-Area Surveillance Program
- Tasks:
  - Currently assisting with image processing and algorithm development for wide-area surveillance systems. Primary focuses are in distributed 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

Co-Op, Special Programs Division,
Nevada Automotive Test Center, Silver Springs, NV
May 2009 - January 2010

- Primary task was to aid in the testing and implementation of electronic systems for the USMC Marine Personnel Carrier Technology Demonstrator vehicle.
- Wrote feasibility reports on electrical systems used, researched and compared COTS electronic solutions with Mil-Std and SAE requirements, as well as bench-tested electronic systems prior to installation.

Technical Skills

- **Programming Languages**: C++, Python, Matlab, LaTeX, PowerShell, and Bash.
- **Software Experience**:
  - Image Processing : OpenCV, Matlab, NASA Vision Workbench
  - GIS : GDAL, GeoServer, OpenLayers, Google Earth Enterprise deployments
  - Distributed Computing : MPI, IBVerbs, RDMA, 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
  Garcia, Aranda, Suarez, Tercero,
  "Learning Image Processing with OpenCV", Packt Publishing, March 2015
  link
- Technical Reviewer
  Prateek Joshi
  "OpenCV with Python By Example", Packt Publishing, October 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
- Area of Interest: Computer Vision, Artificial Intelligence, 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

Mentor, Boys and Girls Club of Truckee Meadows
March 2015 - Present

Groups

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

Member, Resource Protection Team, 152 Security Forces Squadron, NVANG

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