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## EDUCATION

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*Colorado School Of Mines, Golden, CO*  
**Masters in Computer Science** **2000**  
Work focused on autonomous robotics, probabilistic reasoning, and expert systems.

*California Polytechnic State University, San Luis Obispo, CA*  
**Bachelors in Mechanical Engineering** **1992**  
Areas of Concentration: Vibrations and robotics/controls.

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## EXPERIENCE

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*MBARI, Moss Landing, CA*  
**Information Engineering Group Lead** **2015-Present**  
Manage group of software engineers as well as designing and developing software for various data management, processing and user facing systems. Developing software for many different oceanographic platforms and instruments.

*MBARI, Moss Landing, CA*  
**Support Engineering Group Lead** **2009 - 2015**  
Managed group of software, mechanical and electrical engineers to support MBARI's operational assets in addition to products developed at MBARI being used in the operations group. Also developing software applications for various projects such as a data management and planning graphical user interface for the ESP project. Developing software for many different oceanographic platforms and instruments.

*MBARI, Moss Landing, CA*  
**Software Engineer** **2001 - 2009**  
Lead engineer on development of a data management system for ocean observatories. System catalogs and stores data from deployed ocean assets as well as processing of data from those original data sets.

*Atmel Corporation, Colorado Springs, CO*  
**Software Engineer** **2000 - 2001**  
Developed software for factory automation and quality control in semiconductor fabrication facility.

*Atmel Corporation, Colorado Springs, CO*  
**Photolithography Process Engineer** **1998 - 2000**  
Provided process engineering support for the photolithography step. Developed software for managing design, manufacturing and quality control of photolithography reticles.

*Atmel Corporation, Colorado Springs, CO*  
**Thin Films Equipment Engineer** **1994 - 1998**  
Provided engineering support for wafer fabrication equipment focused on the thin films process step.

*GE Nuclear Energy, San Jose, CA*  
**Engineer – Advanced Engineering Program** **1992 - 1994**  
Six-month rotations through different engineering departments while taking

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work sponsored classes towards master's degree. First rotation was in advanced reactor core design followed by a second rotation in field engineering where I worked with Remotely Operated Vehicles (ROVs) to perform in-core inspection.

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#### PUBLICATIONS AND PAPERS

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- **Gomes, K.**, D. Cline, D. Edgington, M. Godin, T. Maughan, M. McCann, T. O'Reilly, F. Bahr, F. Chavez, M. Messié, J. Das and K. Rajan (2013). "ODSS: A decision support system for ocean exploration". Proceedings of the Workshop on Data-Driven Decision Guidance and Support Systems (DGSS), 29<sup>th</sup> Institute of Electrical and Electronics Engineers International Conference on Data Engineering 2013, Brisbane, Australia, 12pp.
- Das J., T. Maughan, M. McCann, M. Godin, T. O'Reilly, M. Messié, F. Bahr, **K. Gomes**, F. Py, J.G. Bellingham, G.S. Sukhatme, and K. Rajan (2011). "Towards mixed-initiative, multi-robot field experiments: Design, deployment, and lessons learned". Proceedings of the International Conference on Intelligent Robots and Systems, San Francisco, CA.
- Edgington, D., Butler, R., Fleury, T., **Gomes, K.**, Graybeal, J., Herlien, R., and Welch, V. (2011). "Observatory Middleware Framework (OMF)" section in book "Remote Instrumentation Services on the e-Infrastructure", pp: 231-239.
- Edgington, D., Butler, R., Fleury, T., **Gomes, K.**, Graybeal, J., Herlien, R., Welch, V. "Observatory Middleware Framework". INGRID 2009, Sardinia, Italy.
- Butler, R., Fleury, T., Welch, V., Graybeal, J., Edgington, D., **Gomes, K.**, Herlien, R. (2008). "Observatory Middleware Framework (OMF)". Poster: 4<sup>th</sup> IEEE International Conference on e-Science, Indianapolis, Indiana. December 2008.
- McCann, M. and **Gomes, K.** (2008) "Oceanographic data provenance tracking with the Shore Side Data System", International Provenance and Annotation Workshop, 2008. Springer Press.
- **Gomes, K.**, M. Arrott, R. Butler, D. Edgington, M. Freemon, R. Herlien, B. Howe, Y. Liu, T. O'Reilly, V. Welch, K. Sality (Poster 2008). "Cyberinfrastructure and Middleware Applied to Ocean Observing Systems". Ocean Sciences Meeting, Orlando, FL. March 2008.
- **Gomes, K.**, M. Arrott, R. Butler, D. Edgington, M. Freemon, R. Herlien, B. Howe, Y. Liu, T. O'Reilly, V. Welch, K. Sality (Poster 200y). "Cyberinfrastructure and Middleware Efforts Applied to Ocean Observing Systems". AGU Fall Meeting, San Francisco, CA, December 2007.
- O'Reilly, T.C., Headley, K., Graybeal, J., **Gomes, K.J.**, Edgington, D.R., Sality, K.A., Davis, D., and Chase, A. "MBARI technology for self-configuring interoperable ocean observatories (060331-236), MTS/IEEE Oceans 2006 Conference Proceedings, Boston, MA, September 2006. IEEE Press.
- **Gomes, K.J.**, O'Reilly, T.C., Graybeal, J., "Issues in Data Management in Observing Systems and Lessons Learned", MTS/IEEE Oceans 2006 Conference Proceedings, Boston, MA, September 2001. IEEE Press.
- **Gomes, K.**, Chavez, F.C., Graybeal, J. "From Raw Data to Observing Products with SSDS: Fishes to Wishes". MTS/IEEE Oceans 2005 Conference Proceedings, September, 2005, Washington, D.C. IEEE Press.
- O'Reilly, T., Headley, K., Herlien, R., Risi, M., Davis, D., Edgington, D.R., **Gomes, K.**, Meese, T., Graybeal, J., Chaffey, M. "Software Infrastructure for the MBARI Ocean Observing System". MTS/IEEE Oceans 2004 Conference Proceedings, November 2004, Kobe, Japan. IEEE Press.
- Graybeal, J., **Gomes, K.J.**, McCann, M., Schlining, B., Schramm, R., Wilkin, D., "MBARI's operational, extensible, data management for ocean observatories", The Third International Workshop on Scientific Use of Submarine Cables and Related Technologies, Tokyo, 2003.

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#### INVITED LECTURES

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- MBARI SIAM and SSDS, OOI Sensing and Acquisition Workshop, San Diego, CA, August 2008.
  - MBARI SSDS, OOI Data Management Architecture Specification Workshop, San Diego, CA, June 2008.
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- MBARI Data Architecture, OOI Data Product Generation Workshop, San Diego, CA, May 2008.
  - SIAM, SSDS, and CI for ALOHA-MARS, OOI Systems Engineering Interface Meeting, Woods Hole, MA, August 2007.

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#### MENTORSHIPS

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- Durga pavani Brundavanam, graduate summer intern, Mississippi State University, Mississippi State, MS. Embedded systems development and Enterprise Service Bus integration for Observatory Middleware Project, 2009.
- Zachary Ruble, graduate summer intern, University of Wyoming, Laramie, WY. Embedded systems development to support instrument proxies for Observatory Middleware Project, 2008.

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#### MEMBERSHIPS

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- American Geophysical Union
- Association for Computing Machinery