

**John Karasinski**  
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## Education

- **University of California, Davis**  
*Ph.D. Mechanical and Aerospace Engineering*

    - Human systems integration and control theory

*M.S. Mechanical and Aerospace Engineering*

    - Real-time performance feedback for the manual control of spacecraft

**Davis, CA**  
2016 – Current

2013-2016
  - **University of California, Santa Cruz**  
*B.S. Physics*

    - High-energy astroparticle physics with the Fermi Gamma-ray Telescope

**Santa Cruz, CA**  
2008-2012
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## Experience

- **UC Davis Center for Human/Robotics/Vehicle Integration and Performance**  
*Graduate Student Researcher*

  - Development and validation of methods to assess task performance in real-time and provide immediate feedback to improve mission outcomes for spaceflight operations
  - Customized refresher and just-in-time training for long-duration spaceflight crews
  - Simulation development for the analysis of human performance and human-automation interaction
  - Multiple human subject research campaigns
  - Computer-vision techniques for autonomous spacecraft rendezvous and docking
  - Optimal control theory for spacecraft attitude pointing

**Davis, CA**  
2013 – Current
- **San José State University Research Foundation**  
*Research Intern*

  - Designed and built a prototype of a mobile procedure viewer with the goals of reducing execution time, training time, and procedure execution errors for astronauts on the International Space Station
  - Directed design interns on prototyping, usability testing, analysis and feasibility tasks
  - Mentored software development interns learning Arduino, node, and Unity to accomplish tasks
  - Integrated HoloLens augmented reality display and ESP8266 hardware through a MQTT broker
  - Software development with Unity, node, and C++

**NASA Ames Research Center, Moffett Field, CA**  
June – September 2016
- **Foodfully, Inc.**  
*Lead Software Developer*

  - Development of web, iOS, and Android mobile apps to reduce household food waste
  - Full-stack software development in Javascript, Meteor, MongoDB, and React

**Davis, CA**  
2015-Current
- **Teachers Curriculum Institute**  
*Software Developer*

  - Development of interactive science curriculum, comprehensive educational suite, and online store
  - Software development in JavaScript, HTML5, and Ruby on Rails

**Mountain View, CA**  
2013-2015
- **Handstand Inc.**  
*Content Administrator*

  - Curated and published a library of over 2,000 creative commons and open source textbooks for free use (over 2 million views as of January 2017, see [https://archive.org/details/opensource\\_textbooks](https://archive.org/details/opensource_textbooks))
  - Assisted with the design, creation, and quality assurance of both the mobile and web applications
  - Selected science, technology, engineering, and mathematics (STEM) textbooks for use with Android education application
  - Effectively managed small teams of 3-7 people to complete various start up projects

**Mountain View, CA**  
2011 – 2012

• **University of California, Santa Cruz**

*Undergraduate Student Researcher*

**Santa Cruz, CA**

2010 – 2012

- Search for ‘smoking gun’ signatures of dark matter in the galactic center
- High energy gamma-ray timing analyses with the Fermi Gamma Ray Telescope

*Junior Specialist*

2009 – 2010, Balloon Campaigns 2011-13

- Computer-aided testing and evaluation of hardware and software for use on both test and final BARREL (Balloon Array for RBSP Relativistic Electron Losses) balloon campaigns
- Monitored data acquisition and performance of balloons during multiple campaigns to determine the electron loss rate during RBSP relativistic electron events

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## Selected Publications

**Karasinski, John A**, Joyce, R., Carroll, C., Gale, J., and Hillenius, S., “An Augmented Reality/Internet of Things Prototype for Just-in-time Astronaut Training,” *International Conference on Virtual, Augmented and Mixed Reality*, Springer, Cham, 2017, pp. 248–260.

**Karasinski, John A**, Robinson, S. K., Handley, P., and Duda, K. R., “Real-Time Performance Feedback in a Manually-Controlled Spacecraft Inspection Task,” *AIAA Modeling and Simulation Technologies Conference*, 2017, p. 1314.

**Karasinski, John Austin**, *Real-Time Performance Feedback for the Manual Control of Spacecraft*, Master’s thesis, University of California, Davis, 2016.

**Karasinski, John A**, Robinson, S. K., Duda, K. R., and Prasov, Z., “Development of real-time performance metrics for manually-guided spacecraft operations,” *2016 IEEE Aerospace Conference*, IEEE, 2016, pp. 1–9.

Duda, K., Robinson, S., Prasov, Z., York, S., Handley, P., **Karasinski J**, Tinch, J., and West, J., “Metrics and Methods for Real-Time Task Performance Assessment,” *Aerospace Medicine and Human Performance*, Vol. 86, No. 3, March 2015, pp. 207–208.

Duda, K., Robinson, S., Prasov, Z., York, S., Handley, P., **Karasinski J**, Tinch, J., and West, J., “Metrics and Methods for Real-Time Task Performance Assessment,” Galveston, TX, January 2015, [Abstract and Poster].

**Karasinski, John Austin**, *A HIGH ENERGY TIMING ANALYSIS WITH THE FERMI GAMMA-RAY TELESCOPE*, Bachelor’s thesis, University of California, Santa Cruz, 2012.

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## Core Technical Skills

**Core Languages:** Python, Javascript

**Additional Languages:** FORTRAN, C++, MATLAB, Simulink,  $\LaTeX$ , jQuery, Ruby on Rails, HTML5, CSS3

**Development Environments:** Linux, macOS, Windows, Android, iOS