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# GABRIEL TAKACS

- EDUCATION** **Harvey Mudd College**, Claremont, CA. Bachelor of Science in **Engineering**. Humanities concentration in media studies. May 2005. Major GPA: **3.84** Cumulative GPA: **3.72**
- Stanford University**, Stanford, CA. Masters of Science in **Electrical Engineering**. March 2007. GPA: **3.65**
- COURSE WORK** Modern & Non-Linear Control Systems Engineering                      Digital Electronics & Comp Engineering  
Communication & Information Theory    Experimental Engineering  
Numerical Methods to Engineering     Statistical Signal Processing  
Electrical & Magnetic Circuits / Devices    Video & Image Processing / Compression
- ENGINEERING PROJECTS** **Lockheed Martin**, Fall 2004, Spring 2005.  
Design, fabricate and test a heliostat with closed loop microprocessor control. Design enclosure for heliostat. Incorporate flexible user control. Leader of 4 person team.
- Independent Project**, Summer 2004.  
Designed and constructed a robotic platform for autonomous navigation, consisting of a two wheel differential-steering design capable of carrying a laptop computer. An on board microcontroller interfaces motor, sonar, contact, and encoder control.
- Aerospace Corporation**, Spring 2004.  
Designed, fabricated, and tested a system consisting of a digital camera, GPS sensor, non-volatile memory, and digital signal processing capabilities mounted on PCB boards ready for integration with current Picosat technology. Member of 5 person team. Received award for contribution to project.
- WORK EXPERIENCE** **Research Intern**, Nokia Research Center, CA, Summer 2007- Present  
Research and development of an image-based augmented reality system for the mobile device. Programming in Linux and Symbian with Python and C++.
- Intern**, Lockheed Martin Solar & Astrophysics Lab, CA. Summer 2005 – Fall 2006  
Installed and tested computer controlled heliostat. Responsible for real-time control and user interface programming, as well as mechanical construction.
- Research Assistant**, Harvey Mudd College & JPL, CA. Fall 2004  
Developed image processing methods to aid in automated Martian landing site detection. Programming done in C++.
- Research Assistant**, Harvey Mudd College & National Imagery and Mapping Agency, Claremont, CA. Spring 2004  
Developed a neural network based system for identifying and classifying aircraft in aerial photos. Neural network and image processing programs developed in C++.
- Research Assistant**, Harvey Mudd College, Claremont, CA. Summer 2002  
Developed navigational control program, and artificial neural network matching of landmarks for robotic mapping.
- Computer Animator**, Harvey Mudd College, Claremont, CA. Summer 2003  
Modeled and animated visual models of genetic trees for the media presentation "Stories from the Human Genome."
- Intern**, Centropolis Entertainment, Culver City, CA, Spring 2000, 1999
- Film Editing Intern**, Larry Levinson Productions, Los Angeles, CA. Spring 1998
- SKILLS** **Software:** C++, Linux, MATLAB, Symbian, Python, Perl, Simulink, Multisim, SPICE, Solidworks, Maple, Microsoft Office, Maya, Photoshop, Premiere, Shake, After Effects.  
**Hardware:** Soldering, Mill, Lathe, System debugging.
- HONORS** Alford-Gilkeson clinic award given to one junior for outstanding contribution to team technical project.  
Dean's list distinction every semester at Harvey Mudd  
Tau Beta Pi Honor Society Officer
- PUBLICATIONS** G. Takacs, V. Chandrasekhar, B. Girod, and R. Grzeszczuk, "Feature Tracking for Mobile Augmented Reality Using Video Coder Motion Vectors," in *Proceedings of the Sixth IEEE and ACM International Symposium on Mixed and Augmented Reality (ISMAR'07)*, 2007.  
G. Takacs, V. Chandrasekhar, et al., "Outdoors Augmented Reality on Mobile Phone using Loxel-Based Visual Feature Organization," second round review for *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2008.