

Francis Julian Panetta

336 Fort Washington Ave
Apt 2F
New York, NY 10033

julian.panetta@gmail.com
(979) 220-5383
<http://julianpanetta.com>

EDUCATION

- Courant Institute (New York University)**, New York, New York 2010 - Present
PhD Student, Computer Science
– GPA: 4.0
- California Institute of Technology**, Pasadena, California June 2010
B.S. with Honors, Computer Science
– GPA: 3.7, Major GPA: 4.0
- A&M Consolidated High School**, College Station, Texas 2002-2006
High School, Summa Cum Laude

RESEARCH AND WORK EXPERIENCE

- NYU Courant Institute**, New York, New York Spring 2017
Teaching Assistant for Daniele Panozzo's Geometric Modelling course
– Lecturing for recitation sections, writing homework assignments, and grading.
- NYU Courant Institute**, New York, New York Fall 2010-Present
PhD Candidate, Advisor: Denis Zorin
– Structural analysis, optimal design, homogenization theory, and additive fabrication
– Large-scale seamless parametrization of triangle meshes
- Applied Minds**, Glendale, California Summer 2010
Summer Intern
– Wrote Linux networking software and worked on embedded design for a novel communications product
- Caltech**, Pasadena, California Winter 2009, Fall 2009, Winter 2010
Teaching Assistant
– Graded, held office hours, led recitation sections, and occasionally lectured for Caltech's CS2 (Introduction to Programming Methods), CS171 (Introduction to Graphics), and CS176 (Introduction to Graphics Research)
- Caltech's Jet Propulsion Laboratory**, Pasadena, California Summer 2008, 2009
Undergraduate Research Fellow, Mentor: Dr. Kiri Wagstaff
– Developed algorithms to automatically detect and classify changes in the surface of Mars
- Texas A&M University Supercomputer Facility**, College Station, Texas Summer 2007
Parallel Programmer, Mentor: Spiros Vellas
– Implemented numerical methods in parallel code
– Benchmarked and analyzed program performance on supercomputers
- Texas A&M University College of Geoscience**, College Station, Texas Summer 2006
Lead Web Developer
– Overhauled <http://geosciences.tamu.edu/> and department websites

PUBLICATIONS

- Elastic Textures for Additive Fabrication. Julian Panetta, Qingnan Zhou, Luigi Malomo, Nico Pietroni, Paolo Cignoni, and Denis Zorin. ACM SIGGRAPH, 2015.
- Worst-case Structural Analysis. Qingnan Zhou, Julian Panetta, and Denis Zorin. ACM SIGGRAPH, 2013.
- Volumetric Basis Reduction for Global Seamless Parameterization of Meshes. Julian Panetta, Michael Kazhdan, Denis Zorin, Technical Report, 2012.

- “Dynamic Landmarking for Surface Feature Identification and Change Detection.” Kiri L. Wagstaff, Julian Panetta, Adnan Ansar, Ronald Greeley, Mary Pendleton Hoffer, Melissa Bunte, and Norbert Schorghofer. ACM Transactions on Intelligent Systems and Technology, May 2012.
- Change Detection in Mars Orbital Images Using Dynamic Landmarking. 41st Lunar and Planetary Science Conference, March 2010.
- Automatic Landmark Identification in Mars Orbital Imagery. Eos Transactions of the AGU, 89(53), Fall Meeting Supplement, Abs#P53C-1469. December 2008.

NON-RESEARCH PROJECTS

- Multitouch iPhone graphing calculator, “Graphite,” with positive reviews and over a thousand customers on the iTunes App Store
- Implemented a full microprocessor in VHDL supporting the TinyAVR instruction set (Project for Caltech EE119b)
- Hardware design and C operating system for AVR-based LED audio spectrum analyzer and text display
- 320 LED animated "Cheshire Cat" light display programmed in C
- Linux-based system to automatically index digital media metadata and scrape information from public movie databases for presentation in an attractive PHP/MySQL/Javascript web interface

HONORS AND ACHIEVEMENTS

- Caltech Summer Undergraduate Research Fellowship 2008, 2009
- NASA Tech Brief award for NTR 46674: Landmark Detection in Orbital Images using Saliency Histograms
- Nominated for Caltech Upper Class Merit Award 2009

SKILLS

- Strong Programming Experience: Modern C++, Python, MATLAB, Mathematica, Javascript, Objective-C, Assembly (Z80, x86)
- Programming Experience: OCaml, GLSL, CUDA, D, PERL, Bash, PHP, MySQL, Java, NIOS Assembly (RISC), Promela
- Libraries: Eigen, Boost, CGAL, SuiteSparse, Triangle, OpenGL, QT, Flex/Bison, MPI, Cocoa
- Hardware Description Languages: VHDL, ABEL
- Hardware Experience: AVR microcontrollers, PLDs, CPLDs, and FPGAs
- Intermediate Spanish

ELECTED LEADERSHIP EXPERIENCE

- Caltech Lloyd House Secretary,** January 2008 - January 2009

 - Administered house server and website
 - Coded applications and designed algorithms for house elections and selection of incoming freshmen
 - Ran elections, room picks, and house meetings
- Caltech Lloyd House Representative at Large,** January 2007 - January 2008

 - Served as liaison between house mates and the executive committee; voted on the executive committee