

Jesse Himmelstein, MS, Ph.D

Born July 17th, 1980
American and French citizenship
Married with two children

jesse@heavenstone.net
+33 (0)6 25 30 07 93
94 rue Alfred de Musset, 31200 Toulouse
<http://heavenstone.net/jesse>

Work Experience:

Chief Technical Officer

Center for Research and Interdisciplinarity (CRI)
2012-Present in Paris, France

Creating games and applications for scientific research and learning. Developing an open source project for creating and remixing games in innovative ways. Advising projects in the education and citizen science domains, such as KnowNodes, Creabator, and Mouvino. Co-directing a game development club in order to bring scientists and game developers together.

Project leader in Virtual Reality and Simulation

Diginext
2010-2012 in Toulouse, France

As the coordinator for three European research projects, represented the project in front of the European Commission as well as lead efforts between scientific and business partners. Designed software for 3D and cartographic visualization and interaction. Focused on user experiences for tactile interfaces, both on mobile devices and large surfaces. Organized user workshops and evaluations at multiple phases along each project.

R&D engineer

Kineo Computer Aided Motion (Kineo CAM)
2005-2010 in Toulouse, France

As part of a small team, developed motion planning applications for automobile and aeronautical clients. Own ideas and development work led to new products. Responsible for representing company in 4M€ European grant in bio-informatics. Customer contact for Ford Motor Company in US and UK.

Internship under Dr. Jean-Paul Laumond

Laboratoire d'Analyse et d'Architecture des Systèmes (LAAS)
2004-2005 in Toulouse, France

Developed 3D operator to measure penetration distance between concave polyhedra using the graphics card (GPU).

Internship under Dr. Tim Brown.

University of Colorado at Boulder
Summer 2004, USA

Created multi-layered monitoring and analysis software of the first public large-scale testbed of ad-hoc wireless networking, including unmanned aerial vehicles.

Application Developer (part-time)

BioFortis, Inc.

1999-2002 in Baltimore, Maryland, USA

Designed web-based tools for entering, storing, and analyzing medical data for prostate cancer research.

Internship under Dr Ken Goldberg

University of California at Berkeley

Summer 2001, USA

Designed interface and web registration system for a remotely and cooperatively controlled robotics platform.

Education:

PhD CIFRE in Robotics

Both the LAAS and Kineo CAM (see Work Experience).

2005-2008 in Toulouse, France

Entitled "Geometric Operators for Motion Planning." Developed new techniques for swept volumes, collision detection, and motion planning in collision. Developed algorithms to be robust, practical, and efficient in order to handle heavy industrial use.

International Masters in Computer Science

Institut Nationale des Sciences Appliquées (INSA)

2003-2005 in Toulouse, France

Graduated 3rd in M2R program. Explored concurrent programming, real time systems, networking protocols, petri nets, and robot control.

French language study

Institut Catholique

2002-2003 in Toulouse, France

BS degree in Computer Engineering

Johns Hopkins University

1999-2002 in Baltimore, MD

Graduated with Department Honors and Dean's List. Studied artificial intelligence, robotics, computer vision, agent based simulation, and microprocessor programming and interfacing. Worked on robot soccer team for ROBOCUP 2002. Joined *Tau Beta Pi* engineering honor society.

Technical Skills:

- Deep knowledge of C++, Javascript, Coffeescript, and Python
- Large projects completed in Java, C, SQL, Ruby, and Actionscript
- Optimized C++ code for speed and memory
- Programmed GPUs to manipulate 3D geometry
- Used version control (SVN, CVS, hg), bugtracking, and project management software
- Comfortable developing in Linux and Windows

Publications:

Jesse Himmelstein, Alexandre Ahmad, Olivier Balet, Jean-Baptiste de la Rivière, Maaïke Schaap, Werner Overdijk, Enrico Gobbetti, Giovanni Pintore, Fabio Ganovelli, and Paolo Brivio. *Interactive Simulation Technology for Crisis Management and Training: The INDIGO Project*. In *9th International Conference for Crisis Response and Management (ISCRAM)*, pp 144-149. April 2012

Jesse Himmelstein, Olivier Balet, Fabio Ganovelli, Enrico Gobbetti, Matthias Specht, Pascal Mueller, Chris Engels, Luc van Gool, Jean-Baptiste de la Rivière, and Armando Cavazzini, "*The V-City Project*," In *The 12th International Symposium on Virtual Reality, Archaeology and Cultural Heritage*, pp. 57-60, October 2011.

Jesse Himmelstein, Etienne Ferré, and Jean-Paul Laumond, "*Swept Volume approximation of polygon soups*," in *IEEE Transactions on Automation Science and Engineering (T-ASE)*, 7:1 (2010), pp. 177-183.

Jesse Himmelstein, Etienne Ferré, and Jean-Paul Laumond, "*Swept Volume approximation of polygon soups*," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, 2007, pp. 4854-4860.

Jesse Himmelstein, Alireza Nakhaei, Guillaume Ginioux, Florent Lamiroux, Etienne Ferré, and Jean-Paul Laumond, "*Efficient Architecture for Collision Detection between Heterogeneous Data Structures*," in *Proceedings of IEEE International Conference on Control, Automation, Robotics and Vision (ICARCV)*, 2008, pp. 552-559.

Jesse Himmelstein, Etienne Ferré, and Jean-Paul Laumond, "'Teleportation'-Based Motion Planner for Design Error Analysis," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA)*, 2009, pp. 914-920.

Other Interests:

- Writer and co-director of "Jeff Makes a Movie" (75 min, accepted at the New York International Film Festival) and "Funk Attack" (12 min)
- Created and tested three casual card games
- Sports: squash, capoeira, biking, kung-fu, ultimate frisbee, soccer

More information at <http://heavenstone.net/jesse>

References available upon request