

## Frédéric Jean

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### Academic degrees

- **Ph.D. degree - Electrical Engineering (ongoing)** Québec, QC  
*Laval University* May 2005 - May 2011
  - **Research Group:** Computer Vision and Systems Laboratory (CVSL)
  - **Project:** Modelling and comparing people's gait from video sequences.
  - **Advisors:** Dr. Robert Bergevin (advisor) and Dr. Alexandra Branzan Albu (co-advisor)
- **Master's degree - Electrical Engineering** Québec, QC  
*Laval University* September 2003 - May 2005
  - **Research Group:** Computer Vision and Systems Laboratory (CVSL)
  - **Project:** Real-time automatic tracking of body parts (head, hands, and feet) from video sequences.
  - **Advisors:** Dr. Robert Bergevin (advisor) and Dr. Alexandra Branzan Albu (co-advisor)
- **Bachelor's degree - Computer Engineering** Québec, QC  
*Laval University* September 1998 - May 2002
  - **Specialization:** Intelligent systems.
- **Russian language certificate of studies** Québec, QC  
*Laval University* 2002 - 2005
  - **Courses:** Basic Russian language I and II, Russian language III and IV, Russian texts analysis and reading.

### Career

- **Research assistant** Victoria, BC  
*University of Victoria* Summers 2006-2009
  - Research for the Ph.D. project in the Computer Vision Research Lab, Department of Electrical and Computer Engineering, under the supervision of Dr. Alexandra Branzan Albu.
  - Design of a computer vision based foot control interface for a virtual musical instrument. Conducted under the supervision of Dr. Alexandra Branzan Albu, with the collaboration of Dr. Peter Driessen (Dept. of Electrical and Computer Engineering) and Dr. Wolfgang Schloss (School of Music).
  - Design of an application (library and user interface) which facilitates the handling of computer vision algorithms. The application is designed for professionals as well as novices. Conducted under the supervision of Dr. Alexandra Branzan Albu (Dept. of Electrical and Computer Engineering).

- **Research and Development, programmer** Québec, QC  
*Régent Instruments Inc.* *May 2002 - May 2003*
  - Research and development in computer vision for systems that analyze images of plants, seeds, roots, etc.
  - Algorithm programming (MS Visual C++, MFC, MS Visual Basic)
  - Documentation and user manuals, technical support

## Teaching

- **Algorithms for Engineer 1 (IFT-2900)** Université Laval  
*Lecturer* *Autumn 2010*
- **Computer Vision (GIF-19263/63517)** Laval University  
*Lecturer (part-time)* *Autumn 2006 and 2009*
- **Parallel and Real Time Systems (GIF-19268)** Laval University  
*Teaching assistant* *Autumn 2003-2010*
- **C++ programming with Linux (IFT-19965)** Laval University  
*Teaching assistant, tutorial leader* *Winter 2004*

## Distinctions and Awards

- Best student poster award at the 18th Annual Canadian Conference on Intelligent Systems 2008
- Precarn Scholars Award (7500\$) 2008
- Precarn Scholars Award (7500\$) 2007
- Merit-based scholarship from Support Program for Workforce Development in the Field of Information and Communication Technologies (3000\$) 2004

## Activities and Associations

- Graduate student member of IEEE (Institute of Electrical and Electronics Engineers)

## Skills and competences

- **Programming languages:** C/C++, Python, MS Visual C++, MS Visual Basic, Assembly (x86 and Motorola 68000), Java, Matlab, HTML, XML, CSS, Javascript
- **Modelization languages:** UML, Design Patterns
- **Operating systems:** Linux, Solaris, UNIX, MacOS X, Windows (all versions)

- **Software:** MatLab, L<sup>A</sup>T<sub>E</sub>X, OpenOffice, MS Office, FrameMaker, XFig, Inkscape, Scribus
- **Libraries:** STL, MFC, QT, Gtk+, Gtkmm, wxWidgets

## Interests

- **Research:** Computer vision, motion analysis from images sequences, pattern recognition
- **Academic:** Artificial intelligence, parallel and distributed systems
- **Personal:** Fractal geometry, chaos theory, programming, open source software

## Complementary Information

- **Speaking skills:** French (excellent), English (very good), Russian (basic)
- **Writing skills:** French (excellent), English (very good), Russian (basic)

## List of publications

- **Journal papers**

- [1] **Frédéric Jean**, Alexandra Branzan-Albu, and Robert Bergevin. Towards view-invariant gait modeling: Computing view-normalized body part trajectories. *Pattern Recognition*, 42(11):2936–2949, November 2009.
- [2] **Frédéric Jean**, Robert Bergevin, and Alexandra Branzan-Albu. Computing and evaluating view-normalized body part trajectories. *Image and Vision Computing*, 27(9):1272–1284, August 2009.
- [3] **Frédéric Jean** and Alexandra Branzan-Albu. The visual keyboard: Real-time feet tracking for the control of musical meta-instruments. *Signal Processing: Image Communication*, 23:505–515, 2008.

- **Conference papers**

- [4] **Frédéric Jean** and Alexandra Branzan-Albu. VIPERS: Visual prototyping environment for real-time imaging systems. In *Proceedings of the ACM Symposium on Software Visualization*, pages 211–212, Salt Lake City, Utah, USA, October 25-26 2010.  
Notes: The paper was accepted as a poster; Peer reviewed.
- [5] **Frédéric Jean**, Robert Bergevin, and Alexandra Branzan-Albu. Trajectories normalization for viewpoint invariant gait recognition. In *Proceedings of the 19th International Conference on Pattern Recognition*, Tampa, Florida, USA, December 8-11 2008.  
Notes: The paper was accepted as a poster; Peer reviewed.
- [6] **Frédéric Jean**, Robert Bergevin, and Alexandra Branzan-Albu. View normalization of body part trajectories. In *Proceedings of the 18th Annual Canadian Conference on Intelligent Systems*, page 51, Windsor, Ontario, Canada, May 27-30 2008.  
Notes: Received the best student poster award.

- [7] **Frédéric Jean**, Alexandra Branzan-Albu, Wolfgang Schloss, and Peter Driessen. Computer vision-based interface for the control of musical meta-instruments. In *Proceedings of 12th International Conference on Human-Computer Interaction*, Beijing, China, July 22-27 2007.  
Notes: The paper was accepted as a poster; Peer reviewed.
- [8] **Frédéric Jean**, Robert Bergevin, and Alexandra Branzan-Albu. Computing view-normalized body parts trajectories. In *Proceedings of the Fourth Canadian Conference on Computer and Robot Vision (CRV)*, pages 89–96, Montreal, QC, Canada, May 27-30 2007.  
Notes: The paper was accepted as an oral presentation; Peer reviewed.
- [9] Alexandra Branzan-Albu, Denis Laurendeau, Sylvain Comtois, Denis Ouellet, Patrick Hébert, André Zaccarin, Marc Parizeau, Robert Bergevin, Xavier Maldague, Richard Drouin, Stéphane Drouin, Nicolas Martel-Brisson, **Frédéric Jean**, Hélène Torresan, Langis Gagnon, and France Laliberté. Monnet: Monitoring pedestrians with a network of loosely-coupled cameras. In *International Conference on Pattern Recognition (ICPR 2006)*, Hong Kong, China, August 20-24 2006.
- [10] **Frédéric Jean**, Robert Bergevin, and Alexandra Branzan-Albu. Body tracking in human walk from monocular video sequences. In *Proceedings of the Second Canadian Conference on Computer and Robot Vision (CRV)*, pages 144–151, Victoria, BC, Canada, May 9-11 2005.  
Notes: The paper was accepted as an oral presentation; Peer reviewed.