Matthieu Macret, M.Sc. M.Eng.

contact@matthieumacret.com
http://www.matthieumacret.com

HIGHLIGHTS OF QUALIFICATIONS

- Versatile and creative problem solver with the ability to rapidly learn new technologies.
- Excellent communication skills with fluency in both written and oral French and English.
- Skilled in design and development of optimization algorithms on HPC architectures in Python and C/C++.
- Experienced in performance benchmarking and statistical analysis using Matlab.
- Familiar with web technologies and their applications (M.Eng. Centrale Lille).

EDUCATION

Simon Fraser University, Surrey, BC. 2010-2013
M.Sc. Thesis: *Automatic Tuning of the OP-1 Synthesizer Using a Multi-objective Genetic Algorithm*.
Senior Supervisor: Philippe Pasquier
Awards: SFU Graduate Fellowship, SIAT Travel Award

Centrale Lille Graduate School of Engineering, Lille, France 2009
M.Eng. Computer Science and Information Systems
Final project: *Generation of believable agents' behaviors for virtual reality car simulators.*

Centrale Marseille Graduate School of Engineering, Marseille, France 2006-2008
BSc, multidisciplinary in-depth scientific education and leadership training incl. Algorithmic and project management.

Lycée Faidherbe, Preparatory classes, Lille, France 2004-2006
Advanced fundamental mathematics and physics classes incl. algebra, probability theory and numerical analysis.
Preparation for the French engineering schools nation-wide competitive exams.

CONFERENCES AND PEER REVIEWED PUBLICATIONS

Sound and Music Computing, Stockholm, Sweden 2013
Matthieu Macret and Philippe Pasquier, **Automatic Tuning of the OP-1 Synthesizer Using a Multi-objective Genetic Algorithm**, in *Proceedings of the 10th Sound and Music Computing Conference*, pp. 387-394.

Intelligent Human Computer Interaction, IIT Kharagpur, India 2013
Matthieu Macret, Alissa N.Antle and Philippe Pasquier, **Can a paper-based sketching interface improve the gamer experience in strategy computer games?**, in Proceedings of the 4th conference on Intelligent Human Computer Interaction, pp. 1-6.

Sound and Music Computing, Copenhagen, Denmark 2012
Matthieu Macret, Philippe Pasquier, and Tamara Smyth, **Automatic calibration of modified fm synthesis to harmonic sounds using genetic algorithms**, in *Proceedings of the 9th Sound and Music Computing Conference*, pp. 387-394.

NIME (New Interfaces for Musical Expression), Oslo 2011
Conference Programme Committee member

RELEVANT TECHNICAL SKILLS

- **System script:** Bash, Perl, Shell DOS
- **Programming Languages:** Python, Matlab, C/C++, JAVA/J2EE, ADA
- **Distributing computing:** OpenMPI
- **Genetic Programming:** DEAP (Python)
  Statistical analysis: Matlab, JMP
- **Versioning tools:** SVN, PVCS
- **Operating systems:** Unix, Microsoft OS, Mac OSX
- **Software modeling:** UML with MagicDraw or Together
- **Databases languages:** Oracle, SQL Server, PostgreSQL
- **Web Languages:** XHTML/CSS, PHP, XML
- **Graphical Programming:** Labview, Pure Data

RELEVANT PROFESSIONAL EXPERIENCE

Metacreation Agent and Multi-Agent Systems Lab, Research Assistant 2010-Present
Simon Fraser University, Vancouver, BC

- Designed, developed and tested a genetic programming platform (Python) for evolving sound synthesizers as a part of an industrial partnership**.**
- Distributed code on the Bugaboo cluster using DTM and mpi4py (Westgrid – Compute Canada).
- Benchmarked sets of configurations for this platform.
- Supervised a visiting graduate student working on fitness functions research.

SNCF (French National Railway Company), Software Development Intern 2009 (6 month internship)
Lille, France

- Planned, organized and managed an intranet application project dedicated to the security examinations of level crossings.
- Developed and maintained the application (ASP + SQL Server).
- Analyzed end user needs through field based observation and interviews.

THALES Communication, Software Development Intern 2008 (3 month internship)
Paris, France

- Automatized the testing platform for the radio software embedded in the Rafale fighter using RTRT.
- Developed a Perl tool to analyze the test results.

IBM, Production Line Intern 2007 (1 month internship)
Montpellier, France

- Tested hardware such as hard drives and servers.

PERSONAL INTERESTS AND DEVELOPMENT

Vancouver Rowing Club, Active Member 2012-Present

- Competed in the Northwest Masters (2013) and Cascadia Master Regatta (2012-2013).

University rowing team captain, Centrale Marseille 2006-2008

- Organized training sessions and competitions and managed club budget.
- Communicated with other rowing clubs and school administration.
- Competed in the French university championships (2006-2008) and other local regattas.

Half Marathon Runner, Marseille - Cassis (France 2007), Lille (France 2009), Vancouver (Scotiabank 2012)

Other interests: Hiking, traveling, technology, video games, reading, skiing

REFERENCES

Philippe Pasquier
Metacreation Lab Director and M.Sc. Supervisor
SIAT, Simon Fraser University
250-13450 102nd Ave.
Surrey, B.C. Canada V3T 0A3

Tamara Smyth
Assistant Professor and co-author
School of Computing Science, Simon Fraser University
250-13450 102nd Ave.
Surrey, B.C. Canada V3T 0A3

Frederic Desrumeaux
J2EE applications team leader and internship supervisor
Informatique INFRA Lille - SNCF
16, rue de Tournai
59000 LILLE Cedex, FRANCE

Benoit LACROIX
Renewable energies project leader and M.Eng. Supervisor
Kamworks – Sustainable Solar Solutions
PO BOX 2497
PHNOM PENH, CAMBODIA