Olivier Sobrie
Ask me for full address
5150 – Floriffoux
Belgium
Phone : +32 (0) 498 48 85 92
E-mail : olivier.sobrie@gmail.com

Software Engineer – Researcher in Computer Science

Professional Experience

- Since May 2017 **Embedded Software Engineer** at Silex Insight (formerly Barco Silex – Louvain-la-Neuve)
  - *Development and software maintenance of audio/video streaming devices (Qt, Yocto, linux drivers, ...) running on a Xilinx platform*
  - *Test framework development and improvements*
  - *Software release*
- Since June 2016 **Scientific Collaborator** at Université de Mons
  - *Research in the field of Multiple Criteria Decision Analysis and Preference Learning*
  - *Article reviewing*
- 2011 – 2017 **Embedded Software Engineer** at Kapsch CarrierCom (formerly Prodata Mobility Systems – Zaventem)
  - *Conception and programming of base platform software for public transports devices (driver console, validator, board computer)*
  - *Programming in C under GNU/Linux (Linux drivers, device tree, u-boot, userspace daemons) on ARM platforms (Freescale IMX6, IMX7, IMX8, Atmel AT91, Zynq-7000)*
  - *Integration of device drivers and various patches in the vanilla Linux kernel (kvaser_usb and ili210x)*
  - *Release management*
- 2006 – 2011 **Embedded Software Engineer** at Atos Worldline (formerly Banksys – Brussels)
  - *Conception and programming of base platform software for payment terminals*
  - *Programming in C under GNU/Linux and eCos (Linux and eCos drivers, userspace daemons)*
  - *Software for telecommunications equipment (wlan, gsm, ethernet, ...)*
  - *Technical support for national and international customers*

School Training

- 2012 – 2016 Ph.D. at Université Paris-Saclay (CentraleSupélec – Laboratoire Génie Industriel) and Université de Mons (Faculté polytechnique – Service MATHRO)
  - *Obtained the double degree of **Doctor of Engineering Science** from Université Paris-Saclay and Université de Mons*
  - *Ph.D. topic: Learning preferences with multiple criteria models*
  - *Advisors: Marc Pirlot (Université de Mons) and Vincent Mousseau (Université Paris-Saclay)*
- 2009 – 2011 Master degree in Civil Engineering at Université de Mons (Faculté polytechnique)
  - *Obtained the degree of **Master in Civil Engineering majored in Computer Science and Management** passed with "La plus grande distinction avec félicitations du jury" in June 2011*
  - *Obtained the prize of "IG Charleroi"*
  - *Master thesis: Implementation of decision aid tools in a Geographic Information System (Quantum GIS)*
- 2001 – 2005 Master degree in Industrial Engineering at École Centrale des Arts et Métiers (ECAM – Haute École Léonard de Vinci – Brussels)
  - *Obtained the degree of **Master in Industrial Engineering majored in Automatic** passed with "Grande distinction" in June 2005*
  - *Master thesis: Creation and installation of a Stop&Go type of assembly line for Golf 5, Lupo and Audi A3 cockpits (Volkswagen Brussels)*

Computers Knowledge

• Operating systems	GNU/Linux, eCos 2.0
• Programming languages	C, C++, Python, Bash, PHP
• Assembler	ARM
• Revision control software	CVS, Subversion, git
• Compilers and debugging tools	gcc, gdb, objdump, elf-tools
• Cryptography	RSA, MD5, SHA1, X509v3
• Networks	OSI model, TCP/IP, PPP, DHCP, DNS, Wi-Fi, TLS/SSL, GSM/Mux, Radius, SOAP
• Networking software	Wireshark, Minicom, Wpa supplicant, Netfilter, ...
• Build systems	Yocto, Buildroot
• Mathematical software	Octave, Matlab, Simulink, GLPK, CPLEX
• User interface	PyQt
• Geographic information system	Quantum GIS (developer of the ELECTRE TRI plugin)

Linguistic Skills

• French	Mother tongue
• English	Good knowledge (B2 level)
• Dutch	Passive knowledge (B1 level)
• Spanish	Passive knowledge (A2 level)

Articles in Journals

- K. Belahcène, V. Mousseau, W. Ouerdane, M. Pirlot, and O. Sobrie. Multiple criteria sorting models and methods - part I: survey of the literature. *4OR*, 21(1):1–46, 2023
- K. Belahcène, V. Mousseau, W. Ouerdane, M. Pirlot, and O. Sobrie. Ranking with multiple reference points: Efficient sat-based learning procedures. *Computers & Operations Research*, 150:106054, 2023
- O. Sobrie, V. Mousseau, and M. Pirlot. Learning monotone preferences using a majority rule sorting model. *International Transactions in Operational Research*, 26(5):1786–1809, 2019
- O. Sobrie, N. Gillis, V. Mousseau, and M. Pirlot. UTA-poly and UTA-splines: additive value functions with polynomial marginals. *European Journal of Operational Research*, 264(2):405–418, 2018
- E. Ersek Uyanic, O. Sobrie, V. Mousseau, and M. Pirlot. Enumerating and categorizing positive boolean functions separable by a k-additive capacity. *Discrete Applied Mathematics*, 229(1):17–30, 2017
- O. Sobrie, M. E. A. Lazouni, S. Mahmoudi, V. Mousseau, and M. Pirlot. A new decision support model for preanesthetic evaluation. *Computer Methods and Programs in Biomedicine*, 133:183–193, 2016
- O. Sobrie, M. Pirlot, and F. Joerin. Intégration de la méthode d'aide à la décision ELECTRE TRI dans un système d'Information Géographique Open Source. *Revue Internationale de Géomatique*, 23(1):13–38, 2013
- O. Sobrie and M. Pirlot. Implementation of ELECTRE TRI in an Open Source GIS. *EWG/MCDA Newsletter*, pages 15–18, 2012

Conference Proceedings

- M Bounhas, M. Pirlot, H. Prade, and O. Sobrie. Comparison of analogy-based methods for predicting preferences. In Ben Amor N., Quost B., and M. Theobald, editors, *Scalable Uncertainty Management - 13th International Conference, SUM 2019, Compiègne, France, December 16-18, 2019, Proceedings*, volume 11940 of *Lecture Notes in Computer Science*, pages 339–354. Springer, 2019
- K. Belahcène, V. Mousseau, W. Ouerdane, M. Pirlot, and O. Sobrie. Ranking with multiple reference points: Efficient elicitation and learning procedures. In *DA2PL 2018 Workshop From Multiple Criteria Decision Aid to Preference Learning*, Poznań, Poland, 2018
- O. Sobrie, V. Mousseau, and M. Pirlot. A population-based algorithm for learning a majority rule sorting model with coalitional veto. In *Evolutionary Multi-Criterion Optimization - 9th International Conference, EMO 2017*, pages 575–589, Münster, Germany, 2017
- O. Sobrie, V. Mousseau, and M. Pirlot. Learning mr-sort rules with coalitional veto. In *DA2PL 2016 Workshop From Multiple Criteria Decision Aid to Preference Learning*, Paderborn, Germany, 2016

- O. Sobrie, V. Mousseau, and M. Pirlot. Learning the parameters of a non compensatory sorting model. In T. Walsh, editor, *Algorithmic Decision Theory*, volume 9346 of *Lecture Notes in Artificial Intelligence*, pages 153–170, Lexington, KY, USA, 2015. Springer
- E. Ersek Uyanic, O. Sobrie, V. Mousseau, and M. Pirlot. Listing the families of sufficient coalitions of criteria involved in sorting procedures. In *DA2PL 2014 Workshop From Multiple Criteria Decision Aid to Preference Learning*, pages 60–70, Paris, France, 2014
- O. Sobrie, V. Mousseau, and M. Pirlot. Learning the parameters of a majority rule sorting model taking attribute interactions into account. In *DA2PL 2014 Workshop From Multiple Criteria Decision Aid to Preference Learning*, pages 22–30, Paris, France, 2014
- O. Sobrie, V. Mousseau, and M. Pirlot. Learning a majority rule model from large sets of assignment examples. In P. Perny, M. Pirlot, and A. Tsoukiás, editors, *Algorithmic Decision Theory*, volume 8176 of *Lecture Notes in Artificial Intelligence*, pages 336–350, Brussels, Belgium, 2013. Springer
- O. Sobrie, V. Mousseau, and M. Pirlot. Learning the parameters of a multiple criteria sorting method from large sets of assignment examples. In *DA2PL 2012 Workshop From Multiple Criteria Decision Aid to Preference Learning*, pages 21–31, Mons, Belgique, 2012

Administrative and Other Information

• Date of birth	26 December 1983
• Place of birth	Mouscron
• Nationality	double (belgian and french)
• Marital status	legal cohabitant, 2 children
• Driving License	B
• Hobbies and interests	operations research, decision aid, preference learning, computing, Linux, open source software (contributions in several open source software including the Linux kernel), hiking, cycling, ...