Laurie Lugrin

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French, 28 years old.   http://lugrin.github.io

Software Engineer

Skills and interests

Technologies	Python (Numpy, Pandas), C++, shell scripting, Linux.
Theory	Model-checking, Artificial Intelligence.
Languages	French (mother tongue), English (experienced, 2.5 years in Ireland).

Professional experience

Jan 2012 – Dec 2013 (2 years) - Software engineer at RenaissanceRe, Dublin.

I worked in the back-end team in a reinsurance company. My team was responsible for providing a risk estimation software that is accurate and fast.

Rewrote the compensation software, improving maintainability and extensibility.

This software determines the amount of money the client is entitled to claim, given the damage sustained and the contract terms.

- gathered requirements from the business analyst, raising issues when the legacy software behaved inconsistently.

- software architecture, development, testing.

- data modelling and migration: designed a new encoding format for contract terms, replacing CSV with JSON. Wrote a migration tool to transform the legacy data into the new format. Cooperated with the front-end team.

- support and maintenance: interactions with business analysts and underwriters.

Contributed to the geography-aware disaster simulation software.

This software predicts the damage that clients would undergo in different scenarios, including natural catastrophes or human errors.

I developed a new tool to model reinsurance coverage for cases of professional fault, catering for various parameters such as profession, region and type of insurance.

June – Aug 2011 (2 months) - Software engineer at Fermat, Montbonnot, France.

Worked on a software that computes the amount of money the bank must put aside as a safety net for its loans. Updated the calculation and the database schema according a new regulation.

Oct 2009 – Dec 2010 (15 months) - Research assistant at Verimag Lab, Grenoble, France.

Designed and implemented a method for comparing consumption models for wireless sensor networks. Studied the data sheet of the embedded radio device CC1100 to confirm the performance of my implementation.

2008 – 2010 (~150h) - Computer Science tutor at Joseph Fourier University, Grenoble.

Taught 90 hours of tutorials and practical labs to 1st and 2nd-year university students: C programming, algorithms, regular expressions, automata.

Tutored 1st and 2nd-year university students in groups and individually, alongside my studies.

Summer 2008 (3 months) - Research intern at the University of Toronto, Canada.

Contributed to a software model-checker. This tool built an simplified symbolic model of the software and proved properties expressed in mu-calculus.

My team proposed an alternative semantics for mu-calculus, which allows symbolic models to be smaller and is more precise than the standard semantics, i.e. it can prove properties true or false in more cases.

I implemented the new semantics in the model-checker and conducted experiments to assess the benefits.

Summer 2006 (6 weeks) - Intern at Grenoble Informatics Laboratory, Grenoble.

Contributed to an intelligent tutoring system for surgeons. Modelled in UML. Implemented a database. Designed a website.

Personal projects

I enjoy coding in my spare time. I wrote:
- a tool that suggests ways to transpose a guitar song, making it easier to play.
- a clone of the puzzle game Blokus, including an AI with configurable strengths.
- a hardware-based frogger game, implemented in VHDL on FPGA.
- an IRC bot in Python which makes rhymes and funny remarks interacting with the discussion.
- a compiler for a functional language with process parallelism.
- a bot for a game theory contest organised by brilliant.org. Bots had to fight and/or cooperate in order to survive in a iterated prisoner's dilemma setting. My bot was one of the 45 survivors amongst the 440 participants.

Education

2014 - Coursera class on Game Theory with distinction (online).
Stanford University and The University of British Columbia

2009 - M.Sc. on Computer Science with high honours. Minor on Artificial Intelligence.
Joseph Fourier University, Grenoble

2009 - Magistère on Computer Science with high honours. Magistère is a course reserved for the best students so they can deepen their knowledge in CS, mainly through research projects.
Joseph Fourier University, Grenoble

2007 - B.Sc. on Computer Science with high honours.
Joseph Fourier University, Grenoble

Hobbies

Badminton, via ferrata, ski, juggling, guitar.