

# SIMON KRAFFT

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## SOFTWARE ENGINEER

Innovative Software Engineer offering skills in Java, JavaScript, and C++ development, data structures, algorithms and design principles. Provide familiarity with complexity theory and databases, and experience with a variety of programming languages. Present a desire to learn new technology and enjoy interacting with customers. Consistently take initiative when given creative license. Collaborate with clients and internal engineering/product and design teams to gather requirements.

## EDUCATION AND PROFESSIONAL DEVELOPMENT

**BACHELOR OF SCIENCE – COMPUTER ENGINEERING**, McGill University, Montreal, Quebec, Canada

**Relevant Coursework:** Communication Systems, Telecommunication Networks, Microelectronics, Control Systems, Algorithms and Data Structures, Operating Systems, Software QA, Digital System Design, Microprocessors, Software Engineering, Design Principles and Methods, Computer Architecture

**FRENCH BACCALAUREAT S – OIB w/merit**, FASNY, New York, NY

## PROJECTS

- ✓ **Mean Stack Web App:** Website utilizing Angular 4 on the front end, Node.js and Express.js on the backend, and MongoDB. Allows user to create an account, log-in, generate a gym program, and save their progress (Available at [gainz-tracker.com](http://gainz-tracker.com)).
- ✓ **Online Multiplayer game:** Pong mini-game created using socket.io. Authoritative server architecture to prevent cheating. Uses various techniques to hide the latency from the player (Available at [pong.krafftsimon.com](http://pong.krafftsimon.com)).
- ✓ **Java Development:** Worked on a team project to design a Bomberman game from scratch, including UI.
- ✓ **Robotics:** Worked on a team project to design a robot. Achieved 3<sup>rd</sup> place out of 20+ teams.
- ✓ **Electronics:** Developed a low-cost, passive, chipless, humidity sensing RFID tag
- ✓ **Computer Architecture:** Designed a five-stage pipelined MIPS processor in VHDL with branch prediction (1-bit or 2-bit), forwarding, and hazard detection.
- ✓ **Internet of Things:** Read data from an accelerometer, transfer data using UART connection, send data to mobile phone using Bluetooth, transfer the data to an AWS bucket and process it.
- ✓ **Fractal Rendering:** Created website to visualize the Mandelbrot Set. Allows the user to zoom in and change various parameters (Available at [fractal.krafftsimon.com](http://fractal.krafftsimon.com)).

## PROFESSIONAL INTERNSHIP

**Christofle Silver, Inc.**, New York City, New York (summer 2013)

### MARKETING CLERK / INTERN

- Updated and Re-designed parts of the store catalog using Adobe InDesign and Photoshop.
- Served on the design team, and learned to utilize colors to influence customers purchases.
- Submitted a new design and decoration pattern in-store.

## TECHNOLOGY

**Programming:** JavaScript, HTML, CSS, TypeScript, Java, C++, VHDL, Python (Limited Experience – Assembly - MIPS, ARM).

**Web Development:** Angular 4, React, Redux, Express.js, Node.js, MongoDB, Socket.io (Limited Experience – GCE, AWS).

**Simulation Program w/Integrated Circuit Emphasis (SPICE):** Various circuit design, including Electrocardiography Measurement Circuit, Op-amp, and AM receiver.

## HONORS AND ACHIEVEMENTS

Placed 345<sup>th</sup> out of 30,577 participants in the “Kangourou des Mathématiques” math competition.