

Computer Engineer

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# NICK HOUGHTON

## Skills

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### PROGRAMMING

C, C++, Java, Python, HTML, CSS, MATLAB, VHDL, asp.NET

### MATHEMATICS

Single and multi-variable calculus, differential equation, discrete mathematics

### ENCRYPTION

Fully homomorphic encryption design

### PROCESSOR DESIGN

VLSI processor design using VHDL, Application Specific Design

### RESEARCH

Independently provides timely and actionable findings, thorough documentation, strong written and verbal communication of findings.

### FIRST AID

CPR, spinal injury management, incident management, patient care

## Academic Experience and Projects

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### DAY-TRADING: END-TO-END DAY TRADING SYSTEM

SENG 462: University of Victoria 2015

- Design and development of client-use web page.
- Design of web server, transaction server. Interaction with third-party stock quote server in Java
- Database design and management.
- Software scaling.
- Technical report writing and design documentation.

### FRONT AND BACK END WEB DESIGN: HARDWARE TROJAN DETECTION AND CATEGORIZATION

MASc: University of Victoria 2015

- Front end web design with asp.NET
- HTML and CSS development
- Database Design with MySQL
- Responsive website design with Bootstrap.

### CORDIC PROCESSOR: APPLICATION SPECIFIC PROCESSOR DESIGN

CENG 441: University of Victoria 2014

- Use of VHSIC Hardware Description Language.
- Processor architecture design.
- Use of Xilinx hardware design suite.
- Technical report writing and design documentation.

## Work Experience

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### JUNIOR RESEARCH ASSISTANT - University of Victoria- Victoria B.C. - September 2014 - Present

- Responsible for software implementation of experimental fully-homomorphic encryption algorithm.
- Contributed to algorithm design and conception.
- Testing management and execution on the *Westgrid*-Research Computing super computer servers.
- Designed and built a graphical user interface for an experimental run-time operating system using the *Swing* JFrame.

### CO-OP EMPLOYEE - Applied Engineering Solutions - Victoria, B.C. - January - April 2012

- Responsible for the drafting and review plans for commercial construction projects via the *AutoCAD design suite*.
- Inspected post-construction sites to create accurate 'as-built' plans for archive storage.

### CO-OP EMPLOYEE - MMM Group - Vancouver, B.C. - May - August 2011

- Assisted Senior Project Engineers and Project Managers design and execute designs of power distribution, lighting and emergency systems in large-scale construction projects.
- Product data research, client-manufacturer liaison.

- On-site quality inspection.
- Designed an award calculator for *LEED*'s mercury-content, 'green'-design award using Excel.

**AQUATIC TEAM LEADER** – Saanich Commonwealth Place - Victoria B.C. - January – December 2014

- Responsible for the direct supervision and management of lifeguards and swim instructors.
- Responsible for facility and equipment management.
- Incident management, quality of first-aid assessment and supervision, emergency medical services communication.
- Responsible for facility inter-departmental co-operation and communication.

**LIFEGUARD** – Saanich Commonwealth Place - Victoria B.C. - April 2006 – December 2014

- Responsible for pro-active accident prevention and supervision of patrons.
- Use of surveillance techniques.
- First-aid knowledge and application.
- Incident management, public-relations and communication skills.

## Education

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**MASTERS OF APPLIED SCIENCE (CANDIDATE)** - University of Victoria - Victoria B.C. - Current

**BACHELORS IN ENGINEERING** - University of Victoria - Victoria B.C. - April 2015

- Major: Computer Engineering
- Specialization: Digital and Embedded Platforms.
- Specialization: Networks Security and Privacy

**STANDARD FIRST AID** - Red Cross - Victoria B.C. - December 2015

**CPR-C** - Red Cross - Victoria B.C. - December 2015

## References

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**Dr. Fayez Gebali, PhD, PEng**

Electrical and Computer Engineering Dept, Chair

University of Victoria

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**Anca E. Cojocaru, P.Eng., LEED AP**

Senior Design Engineer

Associate, MMM. Group

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