Nicholas V. Giamblanco

Toronto, Ontario
giambla2@ece.utoronto.ca
https://github.com/ngiambla
(416) 455-8863

EDUCATION

University of Toronto, Toronto, Ontario   November '19
Master of Applied Science, Electrical & Computer Engineering,
Thesis: Dynamic Memory Allocation Techniques for High-Level Synthesis
Supervised by Prof. Jason H. Anderson
CGPA: 3.95/4.0

Ryerson University, Toronto, Ontario   June '17
Bachelor of Engineering, Electrical & Computer Engineering
CGPA: 3.74/4.33

PUBLICATIONS *Conference Papers*

– **Nicholas Giamblanco** and Jason Anderson. ASAP: Automatic Sizing and Partitioning for Dynamic Memory Heaps in High-Level Synthesis. In *2019 International Conference on Field Programmable Technology (FPT)*. IEEE, 2019

– **Nicholas Giamblanco** and Jason Anderson. A Dynamic Memory Allocation Library for High-Level Synthesis. In *2019 29th International Conference on Field Programmable Logic and Applications (FPL)*. IEEE, 2019

– **Nicholas Giamblanco** and Prathap Siddavaatam. Keyword and Keyphrase Extraction Using Newton's Law of Universal Gravitation. In *2017 IEEE 30th Canadian Conference on Electrical and Computer Engineering (CCECE) (CCECE 2017)*, pages 625–628, 2017

AWARDS

Ontario Graduate Scholarship, University of Toronto		'20
University Of Toronto Fellowship, University of Toronto		'18
Edward S. Rogers Sr. Graduate Scholarship, University of Toronto		'17
DRF URE, Ryerson University		'16
Dean's List, Ryerson University		'15,'16,'17
REC, Ryerson University		'15
Entrance Scholarship, Ryerson University		'13

SOFTWARE

Languages

Procedural:	MIPS, x86 and ARM Assembly, C
Functional:	Make, CMake, Haskell, Matlab
Object Oriented:	Java, Python, Ruby, C++
Markup:	HTML, XML, DTD, LaTeX, Markdown
Scripting:	Javascript, JQuery, Bash
Style Sheets:	CSS, XSLT

Databases

Relational:	PostgreSQL, Oracle, MySQL, sqlite3
Key-Value:	MongoDB

Website Technology

	Web Frameworks:	Firebase, `Flask`, `Ruby on Rails`, `JRuby on Rails`
	Misc	
	Big Data:	`Hadoop`, `Spark`
	Cloud Computing Systems:	`AWS`
	Version Control Systems:	`git`, GitHub, BitBucket
	Frameworks:	Spring Framework
	OS:	OSX, Windows, Linux, Android, RTOS
	Compiler Technologies:	`gcc/g++`, LLVM, `clang`
HARDWARE	*Description Languages:*	`Verilog`, VHDL
	Development Environments:	Xilinx ISE, Xilinx Vivado & Intel/Altera Quartus
	High-Level Synthesis Tools:	LegUp, Vivado HLS, Bambu HLS
	Devices:	Arduino, USRP, Raspberry Pi, Xilinx, Altera

INDUSTRY EXPERIENCE

Untether AI, Toronto, ON, CA   January '20 - Current
Compiler Engineer
- Principal Engineer for designing and maintaining Untether AI's LLVM-compiler backend.
- Responsible for improving performance through micro and macro optimizations.
- Improved productivity of the company by allowing software-developers to use the C-Language.

Information Sciences Institute, Arlington, VA, USA   January '20 - Current
Researcher
- Contibuted to project SAPIENT by developing a neural-network to C/C++ compiler

Information Sciences Institute, Arlington, VA, USA   June '19 - August '19
Visiting Research Assistant
- Contributed to project REAPER (Replacing Aging Electronics Rapidly) by developing a hardware description language (HDL) to LLVM compiler.

University of Toronto, Toronto, ON, CA   January '18 - August '18
Web Developer
- Responsible for recreating & revitalizing University of Toronto's Electrical and Computer Engineering group website. (`http : //www.eecg.utoronto.ca/`)

LynkUp, Inc., Toronto, ON, CA   July '17 - September '17
Software Engineer
- Responsible for full-stack development of the web platform optimized to pair individuals seeking long distance travels.

DataChili, Inc., Toronto, ON, CA   May '17 - July '17
Software Developer
- Development of core features of the software platform (Social Media Connector, Database Connectors, User Functionality, low level operations) and was a full-stack developer (`https : //www.datachili.com/`).

Semple-Gooder Roofing Corporation, Toronto, ON, CA   Dec '15 - Feb '16
Freelance Application Developer
- Developed a mobile tracking application, to track employees at work.

ACADEMIC EXPERIENCE

LegUp, University of Toronto, Toronto, ON, CA — January '18 - Present
Software Developer & Contributor
- Developed `LLVM` passes to allow dynamic memory allocation schemes to be present within LegUp.
- Maintains LegUp's code base through use of version control software (BitBucket & Github).

Ryerson University, Toronto, ON, CA — Sept '15 - March '17
Researcher
- Investigating security with modern wireless communication systems, and developed a software suite to target cellular devices
- Developed the OPR website (`http : //www.ee.ryerson.ca/opr/`).

TEACHING EXPERIENCE

University of Toronto, Toronto, ON — October '17 - December '19
Teaching Assistant
- ECE216 - Signals and Systems
- ECE241 - Digital Systems
- ECE243 - Computer Organization
- ECE253 - Digital and Computer Systems [Head TA]
- ECE1387 - CAD for Digital Circuit Synthesis and Layout

Private Tutor, Toronto, ON — September '17 - June '18
- Responsible for assisting students with all subjects at the Grade 12 level, by preparing notes, practice examples, assistive tools and micro lectures.

Ryerson University — Jan '16 - April '16
Professor's Assistant
- Prepared assignment and examination questions for a Robotics Course (Course Code: ELE869).
- Assisted with the execution of computational experiments in cryptography, machine learning, and optimization.

Ryerson University — Sept '15 - Sept '17
Academic Tutor
- Provided academic support for students enrolled in the Electrical & Computer Engineering program.
- Provided lessons and tutorials for students, with connections to the real world for ease of understanding