

# David Skudra

SOFTWARE ENGINEER · AMERICAN AND CANADIAN CITIZEN

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Enthusiastic team-player with software engineering experience and a diverse development skill set

## Education

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### University of Waterloo

BACHELOR'S DEGREE, COMPUTER SCIENCE

*Waterloo, Ontario*

*Sept. 2014 - Expected May 2019*

- CS Major GPA: 3.24/4.00

## Experience

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### Verizon

SOFTWARE ENGINEERING INTERN

*Basking Ridge, New Jersey*

*June 2018 - Aug. 2018*

- Developed a point of sales web application with Java based microservices and AngularJS
- Architected and integrated a relational database with Hibernate ORM and PostgreSQL
- Added realtime updates to the web application using publisher/subscriber pattern with RabbitMQ and SockJS
- Tested persistence and service layer using JUnit, web layer using Postman

### NASA Ames Research Center

SOFTWARE ENGINEERING INTERN

*Mountain View, California*

*Jan. 2018 - April 2018*

- Parallelized a C++ lithium-ion battery prognostic model using OpenMP and CUDA
- Executed battery prognostic model on the NASA Pleiades supercomputer, yielding a 1218.27% performance increase with OpenMP and a 905.46% performance increase with CUDA
- Improved Monte Carlo prediction performance in teams' C++ prognostic framework using OpenMP
- Monte Carlo predictor saw a performance increase of 234.2% on a NVIDIA Jetson, 221.9% on a Raspberry Pi

### Ciena

SOFTWARE DESIGN INTERN

*Ottawa, Ontario*

*Sept. 2016 - Aug. 2017*

- Developed the Automation Framework for Ciena Licensing software using TCL, Python and Bamboo
- Eliminated a maximum 98 second delay from a high priority VxWorks task in C, caused by lengthy application callbacks
- Created a proxy solution to allow internal software to communicate with external license servers
- Led a presentation for the Licensing team on how to continue development on the Automation Framework; presentation was recorded and shared company-wide as an example on how to use Ciena's automation stack

## Skills

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### Languages

Java, C++, C, Python, CUDA, OpenMP, PostgreSQL, Bash, TCL

### Web

JavaScript, AngularJS, SockJS, JSON, HTML/CSS, RESTful APIs

### Tools

JIRA, Bamboo, Spring Boot, Hibernate, RabbitMQ, GDB, Git, Perforce, Unix, Hadoop

## Publications & Research

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### Resource Intelligent Compilation for GPU Enabled Apps.

*NASA STI*

DAVID J. SKUDRA, GEORGE E. GOROSPE

*April 2018*

- Described a set of design strategies for NASA engineers to utilize in future GPU/CPU enabled applications
- Defined methods to dynamically generate code based on availability of GPU hardware using CUDA & C++
- Full paper available on the NASA Technical Reports Server: <https://ntrs.nasa.gov/search.jsp?R=20180003378>