Lucas Matthew Dutton

Apt #803, 140 Main St. W, Hamilton, ON L8P 0B8
duttonl@mcmaster.ca • +1 (365) 888-3350 • lucasdutton.website

EDUCATION

McMaster University, Ontario, Canada

- Bachelor of Engineering, Software (Co-op)   Sep 2016 – Present
  - Completed level 2 of a 4-year engineering program.
  - Maintained a high GPA of 11 out of 12 grade point system.

EXPERIENCE

Research Assistant, McMaster University/IBM   May 2018 – Apr 2019
- In collaboration with IBM, implemented and tested new hardware instructions and algorithms using a Haskell DSL and C under the supervision of Dr. Christopher Anand.
- Published research paper which was among the 23 accepted submissions of 68 for IBM CASCON 2018.
- Current research on single-precision sigmoid function implementation to speed up machine learning algorithms.

Teaching Assistant- Discrete Mathematics 1, McMaster University   Sep 2018 – Dec 2018
- Responsible for teaching tutorial sessions and holding office hours to help students.
- Fixed front-end issues with the proof checker CalcCheck used in the course by taking student feedback and discussing with the course instructor.

Teaching Assistant- Principles of Programming, McMaster University   Sep 2018 – Dec 2018
- Responsible for teaching tutorial sessions and marking student submitted assignments.
- Created problem sets for student assignments and hold weekly discussions with course instructor on course progress and improvement.

Intern, Alliance Bank Malaysia Berhad   Feb 2016 – May 2016
- Researched and implemented content marketing for promoting online Foreign Currency Accounts.
- Coordinated promotional releases across multiple bank branches and through the online banking portal, resulting in a 20% increase in promotional implementation efficiency.

CLUBS

McMaster Competitive Programming Team   Jan 2018 – Present
- Participate in discussions and practice using algorithms to solve questions in competitive programming.
- Representing McMaster University at the 2018 International Collegiate Programming Contest.

PROJECTS

CalcCheck, CalcCheckWeb - Haskell/Haste
An online proof checker for developing and verifying calculational proofs written by Dr. Wolfram Kahl.
- Handled front-end improvements and content development such as creating new exercises and proofs.
- Discussed future ideas and features for CalcCheck which includes authentication, logging and new proof-specific support.
- Learnt to use Haste, a Haskell web framework and experimented with custom installations of packages.

Image Filtering - C
A course project on implementing mean and median filters.
- Improved filtering efficiency with careful design and implementation of several fast algorithms.
- Learnt to analyze different algorithms and using library functions for specific tasks.

AWARDS & SCHOLARSHIPS

- Project of the Year, IBM CASCON 2018   Oct 2018
  Member of the research team of the CAS Project "Exploring Approximation Algorithms for Instruction Scheduling"
- Dean's Honour List, McMaster University   2017 – 2018
  For obtaining a 9.5 GPA and above on at least 30 units for each school year.
- Principal Award, Columbia International College   Dec 2015
  Awarded to the graduating student with the highest academic average in the best six 4U courses completed in that year.

LANGUAGES   ▪ Haskell ▪ C ▪ C++ ▪ C# ▪ Python ▪ Java ▪ HTML ▪ CSS ▪ Javascript

TECHNOLOGIES   ▪ Linux ▪ Flask ▪ Unity ▪ Git ▪ SVN ▪ Haste