MITCHELL TIMSON

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SUMMARY

Recent computer science and physics graduate with software engineering and development experience in a variety of areas, including visual analytics, games, GPU programming, and graphics.

HIGHLIGHTED SKILLS

- Skilled in many programming languages
- Strong communication skills
- Detail oriented
- Object-oriented design
- Web applications
- Parallel computing
- Strong mathematics background

ACCOMPLISHMENTS

- Developed new web applications, including a virtual museum exhibit
- Developed new features for existing visual analytics web applications
- Co-authored papers for on parallel computing scientific journals

EXPERIENCE

March 2015 – July 2016

Software Developer/Research Assistant, *Nipissing University*

- Collaborated with faculty and students from other departments on a variety of multidisciplinary projects including weather data and watershed analysis visualization applications, and programs used to perform psychology studies
- Performed requirements elicitation activities on multiple projects
- Managed multiple projects with different colleagues
- Co-authored papers on parallel computing for scientific journals

May 2008 – present, seasonal

Asset Management Coordinator, *WSCS Consulting Inc.*

- Performing field visits to municipal sites in order to municipal asset information including roads, bridges, water, wastewater, buildings, parks and fleet
- Calculating values of assets utilizing Reed Construction data and historical records for 5 clients - values representing over $1billion in assets
- Analyzing records of asset purchases/maintenance and entering the required information into computer programs such as Microsoft Excel, Microsoft Access, and RSMeans

- Collaborated with senior level municipal officials, engineers, fire services in order to validate studies and asset valuations
- Created and populated MS Access database to capture client business information

April 2012 – April 2014 Assembly Line, *Denso Manufacturing Canada*

- Worked in a fast-paced manufacturing environment, maintaining a consistent pace throughout each shift, while being aware of and following safe work practices while ensuring quality
- Trained associates, including new associates, on many stations
- Participated in Kaizen continuous improvement activities

EDUCATION

2016 Bachelor of Science, Honours, Computer Science, *Nipissing University*

- Certificate in Game Design and Development
- J.W. Trusler Proficiency Award in Computer Science
- Award in Robotics and Artificial Intelligence
- Undergraduate Research Conference 2016, Digital Humanities Panel winner

2014 Bachelor of Science, Honours, Physical Science, *University of Guelph*

Specializing in Physics

2007 Ontario Secondary School Diploma, *St. John Catholic High School*

Ontario Scholar

PROJECTS

Further details, screenshots, links, and additional projects available at https://mtimson.github.io/Portfolio/

2015 – 2016 Virtual Museum Exhibit

- Developed a web-based application to be deployed as an exhibit commemorating the 100th anniversary of the Battle of Vimy Ridge at the Military Communications and Electronics Museum in Kingston, ON
- Employed a number of technologies throughout the development of main application, including JavaScript, HTML, CSS, and JavaScript libraries Cesium, Knockout, and jQuery
- Constructed tools using Python to allow client to easily populate the main application after development
- Created terrain meshes for application from maps using MATLAB

2015 – 2016 Visual Analytics

- Key contributor in developing and maintaining a web application providing visualizations of large quantities of data acquired from environmental monitoring systems
- Upgraded tools for viewing and comparing multiple data series simultaneously
- Partnered to develop visual analytics tools for large data series
- Provided support for maintaining and updating underlying database
- Employed JavaScript, HTML, CSS, and dygraphs – a JavaScript charting library – for application development

2016 GPU Programming

- NSERC funded project to investigate parallel and heterogeneous computing
- Implemented complex optimization algorithms in C, utilizing the NVIDIA CUDA API for GPU programming, OpenMP for multi-core parallel programming, and BLAS and LAPACK libraries for linear algebra operations
- Designed and executed experiments to investigate the benefits of various heterogeneous parallel configurations
- Co-authored paper that is currently in review for IEEE Transactions on Parallel and Distributed Systems – the abstract is available on the portfolio page linked above

2016 Games Projects

- Developed games with Unity3D and C#
- Collaborated to complete all development activities, including requirements gathering, documentation, and testing
- Partnered to program game logic with colleagues
- Designed and developed the user interface/HUD
- Created game AI to control the movement of autonomous agents to simulate interesting behaviours, such as flocking

2014 – 2016 Coursework

- Gained experience programming in C, C++, C#, Java, JavaScript, MATLAB, Python, SQL, HTML, WebGL, and more
- Gained experience with development tools such as Visual Studio, Unity, Blender, and Eclipse
- Employed GitHub for version control on group projects
- Acquired skills with data structures such as trees, graphs, and finite state machines, their associated algorithms, and implementations
- Acquired strong mathematics skills in a variety of mathematics disciplines, including linear algebra, combinatorics, and number theory