Yawen Ma

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Profile Summary

- Researcher in computer vision (computational photography, computational imaging)
- 2+ years of enterprise software development experience in Finance industry and Human Resource industry

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Research Interests

- Computational Photography

Education

University of Toronto St. George MSc 2016 - now

- Computational Photography, Dynamic Graphics Project, Department of Computer Science. Supervised by Prof. Kiriakos Kutulakos

University of Toronto St. George HBSc (CGPA 3.85/4.0) 2012 - 2016

- Studying in the specialist program of Computer Science.
- Relevant courses: CSC207 Software Design, CSC209 Software Tools & System Programming, CSC240 Enriched Introduction to the Theory of Computation, CSC263 Data Structures and Analysis, CSC309 Programming on the Web, CSC320 Introduction to Visual Computing, CSC324 Principles of Programming Languages, CSC336 Numerical Methods, CSC343 Introduction to Databases, CSC358 Introduction to Computer Networks, CSC369 Operating Systems, CSC373 Algorithm Design, Analysis & Complexity, CSC384 Introduction to Artificial Intelligence, CSC411 Machine Learning and Data Mining, CSC418 Computer Graphics, CSC420 Introduction to Image Understanding, CSC465 Formal Methods in Software Design; STA247 Probability with Computer Applications, STA248 Statistics for Computer Scientists, STA302 Methods of Data Analysis I; PHL245 Modern Symbolic Logic, PHL345 Intermediate Logic.

University of Windsor (CGPA 13.0/13.0) 2011 - 2012

- Studied in the field of Computer Science.
- Relevant courses: Key Concepts in Computer Science, Introduction to Algorithms and Programming I, Introduction to Algorithms and Programming II, Computer Architecture I: Digital Design; Multivariable Calculus, Differential Equations.

University of Science and Technology Beijing 2009 - 2011

- Studied in the field of Applied Physics.
- Relevant courses: Physics Experiments of Science, Mechanics and Thermal Physics, Electromagnetics, Mathematics Method, Optics, Theoretical Mechanics, Linear Algebra.

Academic Awards

- Ontario Graduate Scholarship (2017, University of Toronto)
- Queen Elizabeth II Graduate Scholarship (2016, University of Toronto)
- Dean's List (2014, University of Toronto)
- Innis College Alumni & Friends OSOTF Award (2013, University of Toronto)
- Winifred Florence Hughes Scholarship (2013, University of Toronto)
- Dean's List (2013, University of Toronto)
- President's Honor Roll (2012, University of Windsor)

Research Experience

Innovation Challenge (Ontario Teachers' Pension Plan) 2014

- Researched on techniques to evaluate security holdings profit and loss changes according to price factors based on thesis of Bayesian Stress Test
- Implemented the software for calculating expectation of security holdings profit and loss

Summer Research (University of Science and Technology Beijing) 2010

- Designed questionnaire about general public's opinion on house price in Beijing
- Collected survey responses, analysed data and concluded the analysis result in a report

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Teaching Experience

Teaching Assistant

CSC320 Introduction to Visual Computing Jan. 2018 - Apr. 2018
Jan. 2017 - Apr. 2017
Jan. 2016 - Apr. 2016
Jan. 2015 - Apr. 2015

- Ran tutorial session of medium size class for Computer Science students, explained concepts taught in lectures in detail
- Graded assignments and exams

CSC108 Introduction to Computer Programming Sep. 2017 - Dec.2017

- Explained concepts and give guidance to students in help center office hours
- Graded exams

CSC180 Introduction to Computer Programming Sep. 2015 - Dec.2015

- Ran lab session of large size class for Engineering students, helped them to get familiar with programming
- Graded assignments and exams

Industrial Research Experience

Computer Vision Engineer - Qualcomm May 2018 – Nov. 2018

- Experiment with quantization friendly Object Detection algorithm design
- Explored the capability of Generative Adversarial Network for image denoising
- Improved infrared guided photo denoising algorithm
- Verified the design of projecting and imaging hardware solution for mobile devices

- Python, Tensorflow, Keras, Pytorch, Matlab

Software Development Experience

Software Developer - Ceridian Jan. 2016 - Sep. 2016

- Enables Dayforce Human Capital Management's technical success by providing thought leadership, building performant, scalable and secure core components, integration frameworks, and customer-facing technical features, and by providing build processes, tools and expertise to enhance developer productivity
- Built and maintained
    - Core application components & APIs: Background Job Engine, Data Access APIs, Messaging APIs
    - Features for clients and internal users: Web Services API, Outlook Add-In, SDWorx Services 3rd party integration, Admin Portal
- .Net 4.5, C#, Dojo, SQL Server, TypeScript, WCF

Programmer Analyst - Ontario Teachers' Pension Plan May 2014 - Aug. 2015

- Recognized as a valuable member of the Risk IT development team responsible for architecting and delivering the software components necessary for the Enterprise Risk System Replacement (RSR) project.
- Designed and developed the RSR system's event based SOA foundational framework.
- Developed several efficient proprietary Teacher's Financial Valuation and Scenario Generation models in C# that utilized concepts such as Multifactor Regression.
- Helped provide the ability to perform customized valuations specific to Teacher's methodologies.
- Provided team members with mentoring and technical guidance in both code design, development and support issues.
- Participated and won in an Innovation Challenge competition held to showcase.
- .NET 3.5, C#, PL/SQL, AJAX, JavaScript, CSS, LINQ, Web API

Awards

- Star Partner Award (2015, Ontario Teachers' Pension Plan)
- Innovation Challenge Championship (2014, Ontario Teachers' Pension Plan)

Trainings

- Bootcamp (2016, Ceridian)
- Application Security and Security Awareness Training on Veracode eLearning (2016, Ceridian)

Technical Support Experience

Woodsworth College Computer Lab May 2013 - Apr. 2014

- Maintained computer systems and network
- Provided technical support and troubleshooting for students in lab

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Volunteer Experience

Instructor at China Science and Technology Museum Oct. 2010

Relevant Skills

Research Skills

- Analysis, critical thinking, creative thinking, data mining, problem solving, survey design

Software Development Skills

- SDLC, OOP, UML

Interpersonal Skills

- Collaboration, communication, mentoring, teamwork