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Brian D. Zimmerman

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EDUCATION

Doctor of Philosophy - Computer Science
University of Waterloo

Sep 2022 -

Master of Mathematics - Computer Science
University of Waterloo

Aug 2020 - Aug 2022

THESIS: *Future Sight: Dynamic Story Generation with Large Pretrained Language Models*

Bachelor of Science - Computer Science
California State University, Monterey Bay

Aug 2014 - Dec 2016

CONCENTRATION: Software Engineering

WORK EXPERIENCE

Sessional Instructor
University of Waterloo

Aug 2022 - Dec 2022
Waterloo, Ontario

Wrote course content and delivered lectures for *CS 430 Applications Software Engineering*

Software Engineer III
Capture2, Inc.

May 2017 - Aug 2019
San Diego, California

- Led a team of developers in building .NET Core microservices for handling data ingestion and search queries, improving document ingestion speed by 2000%.
- Designed and implemented an end-to-end analytics solution responsible for aggregating 40 million records of government funding data and generating reports about it on user request.
- Wrote SQL Server stored procedures for cleaning newly ingested data.
- Performed an upgrade of our production Elasticsearch cluster from version 1.7 to version 5.6 without any downtime for customers.

CONTRACT WORK

yu+co
Mobile Development

Jan 2021 - Aug 2021

Developed a web application for streaming video feeds captured in the plaza at The Music Center in Los Angeles, CA. The project was build with React.

Borozoro
Web Development

May 2019 - Aug 2019

Built a market platform for business to loan employees to other businesses on a short-term contractual basis. The project was built with Laravel and MySQL.

PROJECTS

Spodder

May 2019 - Aug 2020

Failed Startup

- Designed the Spodder mobile app which lets users post temporal markers (beacons) to a map.
- Used React Native and Redux to build a responsive, cross-platform interface for displaying beacons.
- Developed the RESTful service with .NET Core and Elasticsearch to simultaneously handle hundreds of requests for creating, deleting, and aggregating beacons.
- Created a service to resize and crop user-submitted content and host it statically with AWS S3.
- Deployed services via CircleCI pipeline and git cli to Digital Ocean servers.
- Designed logos, assets, and mock-ups with Adobe Illustrator, Photoshop, and XD.

Gradalogue

May 2019 - Aug 2019

Personal Project

Used React, Next.js, and Elasticsearch to build a web app for prospective graduate students to upload information about their applications and acceptance status.

EckEngine

Aug 2016 - Dec 2016

Undergraduate Capstone Project

Worked with a team to develop a 2D game engine complete with parallax scrolling and an import mechanism to use assets developed with the EckModel software

Greenboard

Aug 2016 - Dec 2016

Course Project

Wrote an API with Slim (PHP) and MySQL for a hiking social media app as my contribution for a *CST 438 Software Engineering* group project.

RESEARCH

- [1] Matthew Johnson, Irene Humer, Brian Zimmerman, Joshua Shallow, Liudmila Tahai, and Krzysztof Pietroszek. Low-cost latency compensation in motion tracking for smartphone-based head mounted display. In *Proceedings of the International Working Conference on Advanced Visual Interfaces*, AVI '16, page 316–317, New York, NY, USA, 2016. Association for Computing Machinery.
- [2] Brian D. Zimmerman. Future sight: Dynamic story generation with large pretrained language models. Master's thesis, UWSpace, 2022.