

# Andrew Novac

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## Education

### University of Toronto

Sept. 2014 to Dec. 2019

- Honours Bachelors of Science: Computer Science Specialist | Mathematics Major
- Coursework in: Artificial Intelligences; Machine Learning; Neural Networks; Software Development; Operating Systems; Databases; Algorithms; Applications of Computer Science; Computer Architecture; Programming organization; Web Programming; Mathematical Modelling; Robotics

## Employment

### Cast Software

Jan. 2020 to Current

#### Software Developer

- Integrated a real-time tracking protocol with unreal engine to parse data from beacons, implementing all functionality provided by RTTrP exposed by blueprints for user scaling and optimization
- Decreased smoothing latency in BlackTrax by 20% through FIFO discarding of data and the implementation of a switch style system to optimize delivery of packet info, as well as taking advantage of in-engine interpolation instead of velocity and acceleration measurements
- Took on revitalization project of the customer outreach system by migrating to ZenDesk and implementing natural language processing to decrease user time spent, response time of marketing and sales, and number of tickets opened

May 2018 to Aug. 2019

#### Research Developer Intern

- Restricted Resource.h content IDs by 90%, then set up a greedy algorithm to go through viable program paths and log actions taken by identifying changes through OpenCV and numpy
- Using a RasPi and a USB hub, allowed on-site representatives to always have the latest images and documentation in a set of SSDs - ready and constantly updating through a local TCP exchange
- Tracked user information using Revulytics and logged information onto a csv file, allowing identification of critical application areas and possible user combinations

### Liminal Entertainment Technologies

Summer 2020

#### Consultant - Developer

- Encapsulated data of video, audio, motion, and more for end-to-end encrypted communication across public networks with delays of only 30-90ms
- Created a cross platform GUI using AvaloniaUI and .NET framework, allowing for quick market entry amidst pandemic

## Projects

### Melodify

A fully fledged windows application using the Spotify API, replacing the native client with a cleaner version with algorithmic stats

### Robotic Motions

Using a real or simulated 7-R robotic arm, identify end-effector position and perform route planning in a dynamic environment

### Facial Recognition

Using machine learning methods, linear regression and gradient descent, created a visual program that follows faces in videos

### Emergency Response Aid

Android application that sends user health and location information to contact emergency services, using OAuth and API Medic

## Technologies

C · C# · C++ · Java · React · Python · MongoDB · Javascript · and more...

## Experiences

**Version Control:** git and svn control systems

**Agile Ceremonies:** stand up, scrum, waterfall, and more

**Volunteer Note-taker:** helped the Accessibility centre at UofT

**International Baccalaureate:** two-year high school education program