UBC
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THE UNIVERSITY OF BRITISH COLUMBIA

Engineering Co-op Program   Phone 604 720 7868
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Bruno Bachmann
Computer Engineering

TECHNICAL SKILLS

Computer	Development Tools	Electrical Equipment/ Hardware
• Java	• Visual Studio	• Arduino
• C/C++	• Eclipse	• Raspberry Pi
• C#	• XCode	• Intel 8052
• Python	• Unity & Blender	• Intel x86_64
• Intel 8052/x86-64 Assembly	• Processing IDE	• Oscilloscope
• VHDL	• Git	• Function generator
• MATLAB	• MultiSim	• Multimeter
	• Quartus 2	• Breadboard
	• Command line (UNIX)	• Altera DE2
	• FL-Studio	

ACADEMIC & CO-OP STATUS

Academic Program
- Computer Engineering; 3 academic terms completed
- Anticipated date of graduation: May, 2019

Co-op Status
- Completed 0/5 work terms; available for 4 or 8 months beginning May, 2016

TECHNICAL PROJECTS

Smart Alarm   **March-April 2016**

Designed and built a smart alarm and backing web application using a Raspberry Pi and an Arduino among many other components with five teammates. Within four weeks the alarm could detect wifi networks, check for existing internet connections, and pair with the user's account on setup. After this the alarm would calculate the appropriate wakeup time based on its location and the user's Google calendar and settings. Upon waking the user up the alarm would listen for user requests about their news, weather, and schedule among others using voice recognition, and read this information back to the user in response.

Autonomous Robot   **March 2016**

Worked as part of a team of 6 to design and build a fully autonomous robot capable of following dark lines on the ground, avoiding obstacles using an ultrasonic sensor, and moving to specified positions given their coordinates. This project was built form the ground up over the course of three weeks.

Database, Server and Machine Learning   **December 2015**

Collaborated with a partner to build an in-memory database and server that modeled the Yelp Academic Dataset from the ground up. After two weeks of development the server was able to simultaneously serve hundreds of clients (through a simple command line interface we developed), handle incoming and outgoing queries and data, and make the necessary changes to our database all in a safe manner using multithreading.

Virtual Environment   **November 2015**

Worked with a partner to fill a virtual world with characters that interacted with one another. By the two-week deadline we had added eleven new objects/characters, each with their own AI and interdependencies that could be manipulated and displayed using the Java Swing API.

WORK EXPERIENCE

Cactus Club Cafe   **August, 2015 – September, 2015**

Kitchen Partner
- Washed dishes at the Cactus Club Café at English Bay for two weeks before being put on concession cook and food-prep duties for the remainder of my time there
- Worked in small teams of 2-4 people, washing dishes for the entire restaurant
- Coordinated duties and handled problems like broken equipment or food stock shortages on the fly in the dish area and in the concession stand for the restaurant
- Read orders and cooked and packaged up to 40 orders per hour at a high speed for up to 9 hours at a time, ensuring that no customer was left waiting over 8 minutes for their food from the time the order was placed to the time it was served

VOLUNTEER WORK EXPERIENCE

National Honor Society   **February, 2013 –June, 2014**
Member
- Focused on improving the lives of the less fortunate people in the local community
- Activities included, but were not limited to, weekly visits to old age homes, monthly visits to foster care homes and homes for the mentally handicapped, fund raisers, and large charity events for those in the country affected by devastating events such as natural disasters

Habitat for Humanity Foundation   **May, 2013 –June, 2014**
Member
- Worked as part of a team to overcome financial and communicative barriers for the less fortunate by planning and running fundraisers, as well as acquiring and appropriating resources in order to assist in small scale, non-profit construction jobs in the local community

Make a Wish Foundation   **May, 2013 –June, 2014**
Member
- Over the course a year I worked in a subgroup of the Make a Wish foundation, organizing fundraisers and managing capital that went towards an annual event run by our group, at which the wish of a terminally ill child would be granted.

EDUCATION

University of British Columbia   **September, 2014 – December, 2015**
Computer Engineering
- Currently a 2nd year computer engineer

National Outdoor Leadership School (NOLS)   **September, 2013**
Graduate (Patagonia Branch)
- Part of a team of 20 person leadership school on a 7-day trek through Patagonia

International Baccalaureate   **June 2014**

AWARDS

International Major Entrance Scholarship	**2014**
Nido Eagle Rays Swim Team Most Valuable Player Award for 2014	**2014**
Nido Eagle Rays Swim Team Most Valuable Player Award for 2014	**2014**
Certificate(s) of achievement For outstanding achievement in IB Physics SL 2, and IB Theory of Knowledge 12	**2014**
President's Award for Educational Excellence	**2014**
International School Nido de Aguilas Scholar Athlete Award	**2013**
International School Nido de Aguilas Eagle Rays Swim Team Letterman Award	**2014**

PROFESSIONAL AFFILIATIONS

The Association of Professional Engineers and Geoscientists of British Columbia

ACTIVITIES AND INTERESTS

Sports	**Music**	**Technology**
•Ultimate Frisbee	•Music production with FL Studio	• Game development
•Bodyboarding/ surfing	•Playing the guitar	• Character modelling
	•Game development	• Animations