Aiden Benner

1B Software Engineering | University of Waterloo

Experience

GEO-SLOPE International
Backend Developer Intern

July-August, 2014. 2015, 2016

- Developed a webservice to parse and store analytics XML data from tens of thousands of GeoStudio sessions daily using C# and SQL
- Created a utility using C# that uses license data to send customer email reminders, automating hours of manual work weekly
- Designed a database to efficiently store and query GeoStudio analytics
- Implemented a service to send internal alerts when scheduled tasks fail
- Developed a service using C# to automatically backup log and error files stored on the production servers over FTP

C#, SQL, TFS

VEX Robotics Team 3388
Lead Developer

2014-2016

- Designed realtime embedded system code using C to control robot's sensors and actuators both autonomously and by remote
- Implemented and tuned several PID controllers in C to control actuators using sensor feedback from gyroscopes, encoders and potentiometers
- Developed signal processing code to improve accuracy of sensor data
- Diagnosed and resolved several critical bugs in high pressure situations

C, Git

FIRST Robotics Team 4334
Lead Developer

2015-2016

- Collaborated to write embedded systems code to control a 120lb robot
- Implemented feedforward motion profiling in Java to control drivebase
- Lead programming workshops during the China Robotics Challenge
- Maintained the team website using Jekyll and Markdown

Java, Git

Skills

Proficient: C++, Java
Familiar: C, C#, HTML, CSS
Prior Experience: SQL, JS, Python
Tools: Git, Vim, Unix Shell, TFS

Contact

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Awards

3rd in Junior Division 2016 and 2nd in Junior Division 2015 in the Alberta Collegiate Programming Competition

VEX Team

16 total awards, won 7 competitions
8th/6000 teams in 2016 Robot Skills
Semifinal World Championship 2016

FIRST Team

Winner of China Robotics Challenge
Semifinal World Championship 2016
Won 3 regionals and 5 awards

Education

University of Waterloo
Candidate for Bachelor of Software Engineering 2016 - 2021 (expected)

Projects

Neural Network for Printed Optical Character Recognition

- A neural network and backpropagation implementation written in Java to classify images of printed text
- Uses OpenCV to segment and normalize images of printed text into individual characters

Orbit Assistant

- A portable personal assistant built for the TI Tiva and Orbit Boosterpack using C++
- Microcontroller communicates over serial with an event handling framework written in Python
- Features include reddit and email clients, with location dependent weather and time updates

Matrix Utilities

- A web based suite of matrix utilities written in Javascript
- Uses Gaussian Elimination to calculate matrix inverses or determinants and renders output with Latex

Chat Server

- A graphical centralized chat client and server written in Java that allows text chat over LAN or the internet
- Gives users the ability to set and change their username and for the admin to kick/ban users