Sheikh Tahmid

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Skills

- Programming Languages: Java, JavaScript, HTML, CSS, C, C++, Python
- Tools and Frameworks: Android SDK, JavaFX, Swing, Node.js, Electron, Git, ROS (Robot Operating System)

Experience

Member and Captain of FIRST Robotics Competition Team 5036: The RoboDevils ***2014 - 2018***

- Worked with high school team to create an industrial-sized robot each year, designed to play a unique real-time strategy-based game for the FIRST Robotics Competition
- Led team to progress from ranking 44/48 at a local competition in 2014 to becoming one of the highest ranked teams in Ontario and qualify for the World Championships in both 2017 and 2018
- Official captain in 2017 and 2018 seasons; sole programmer and lead CAD designer from 2016 to 2018
- Programmed robots in Java after designing them with Autodesk Inventor
- Earned the team the Innovation in Control Award in 2018 for software that contained multiple PID loops and used various sensors such as encoders and a potentiometer to perform accurately during the autonomous phase and automate certain functions for the drivers during the teleoperated phase
- Received the Principal's Award for Student Leadership at high school graduation for work with robotics team

Robotics Instructor at Bot Camp ***Summer 2018***

- Taught students aged 10-14 how to design, build and program robots using the VEX IQ platform
- Introduced basic programming concepts and various real-world robotics mechanisms
- Mentored assigned students and ensured they were all learning, having fun and making progress on their robots

Created "Wheely" Promotional Robot for SmartWheel Canada ***Summer 2017***

- Designed and constructed a robot mascot with various materials for a hoverboard retailer
- Programmed a Java app deployed on a Windows tablet to act as the robot's "face"
- Programmed an Android app to remotely control the "face", making the robot "talk" and change its expression

Robotics Instructor at Toronto District School Board ***Summer 2017***

- Taught summer school students in grades 1-5 how to program robots with block-based programming
- Collaborated with student-instructors and teachers to design lesson plans for each class
- Introduced basic programming concepts and connected lessons to other STEM classes

Projects

Laptop Guard (Java, C, JavaFX, JavaMail, WinAPI)

- Created a desktop app to protect against potential laptop thefts
- App locks out the laptop when enabled, sounding an alarm and sending an email notification to the user if the machine is unplugged; alarm stops only when user logs back in and disables app
- Created GUI using JavaFX and implemented the email notification feature using JavaMail
- Implemented Windows system function calls using C and the WinAPI

Quantitative Data Analysis App - "Scouting App" (Java, Swing)

- Created desktop app to improve robotics team's ability to scout and analyze robots at robotics competitions
- User records a robots' stats after each match, allowing app to calculate averages and standard deviations for a robot's performance over multiple matches, and then rank each robot
- Created GUI using Swing, allowing saved data and robot rankings to be viewed in the app

Word Matching Game (Java, Android SDK)

- Created an Android brain-training app where user matches pairs of words hidden inside a grid
- Word pairs and grid placements are selected at random and difficulty increases at each level
- Over 245 downloads on third-party app store

Pong Desktop App (JavaScript, HTML, CSS, Node.js, Electron)

- User plays a game of Pong by controlling their paddle against a computer-controlled opponent
- Implemented physics and smart behaviour of computer-controlled opponent

Education

University of Waterloo ***2018 – present***

- Bachelor of Computer Science, Class of 2023