Vinodh Nagarajan

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EDUCATION

University of Illinois at Urbana-Champaign | Champaign, IL — Expected: May 2023
Bachelor of Science in **Mathematics and Computer Science** — Cumulative GPA: 3.70
Relevant Coursework: Data Structures (C++), Software Design Studio, Applied Linear Algebra, Probability and Statistics, Fundamental Mathematics

Arizona State University | Tempe, AZ — Attended: August 2019 - May 2020
Bachelor of Science in **Computer Science** — Cumulative GPA: 3.75
Relevant Coursework: Object-Oriented Programming and Data Structures (Java), Digital Design Fundamentals, Calculus with Analytical Geometry III, Discrete Mathematics Structures

SKILLS AND TECHNOLOGIES

Programming Languages: Java, C++, Python, Kotlin, Verilog, C, JavaScript, HTML, Flutter, Dart
Tools, Environments: GitHub, Android Studio, IntelliJ IDEA, RStudio, Arduino

EXPERIENCE

CS 126 Course Assistant, University of Illinois | Champaign, IL — January 2021 - Present

- Course assistant and code moderator for Software Design Studio
- Responsible for moderating weekly code reviews, providing feedback and answering questions students have on assignments and guiding them to write modular, testable code in both Java and C++

Electronic Systems Engineer, Illini Motorsports | Champaign, IL — August 2020 - Present

- Used the MPLAB X IDE and XC32 Compiler in conjunction with a Microchip 32-bit microcontroller to create an auto-upshifting paddle-shifting gear control module, custom steering wheel, and power distribution module.
- Refine existing C codebase to improve readability, organization, maintainability, and system stability for the 2019-2020 vehicle and any future vehicles.

Systems Engineer, Sun Devil Motorsports | Tempe, AZ — August 2019 - May 2020

- Developed a custom paddle shifter gear system and control module for simpler and more reliable vehicle operation at speed.
- Built a more compact dashboard and steering rack and optimized driver seating position to improve driver visibility, vehicle controllability and vehicle stability during operation.

PERSONAL PROJECTS

BackTap, Android app that uses taps on the back of a phone to perform actions

- Developed in Android Studio using Kotlin, this app uses data from the phone's accelerometers to detect double and triple taps on the back of the user's phone which can be mapped to various actions.

A* Pathfinding Visualization, Python program to visualize paths between points and around obstacles

- Developed in Python and using the tkinter GUI library, this program allows the user to draw a starting point, finishing point and obstacles. It calculates the shortest path around user-placed obstacles and draws the shortest and most efficient path.