Girish Tiwari

16 Cleaves Farm Rd, Falmouth, ME 04105

📞 207-299-0122 ✉ girish.tiw.2@gmail.com in linkedin.com/in/girish-tiwari

Education

University of Illinois at Urbana-Champaign   **December 2022**
Bachelor of Science in Computer Engineering   GPA: 3.34/4.00

Relevant Coursework   Dean's List Fall '19 & Spring '20
- Computer Systems Eng.
- Digital Systems Lab
- Artificial Intelligence
- Machine Learning

Experience and Projects

Brunswick Corporation   **October 2020 – Present**
Autonomy Simulation Intern   Champaign, IL
- Leading a project to design and implement an automated scenario generator as training data for marine vehicle autonomy ML models, relieving the need for expensive data collection trips
- Enhancing an interactive UX through realistic vessel gameplay in UE to demonstrate autonomy features at CES 2023

Virtual Reality Software Engineer Intern   Champaign, IL
- Facilitated user feedback by developing an interactive Virtual Reality world with pilotable vehicles using C++
- Initiated a futuristic boating experience showcased at CES 2022 by contributing expertise of runtime capabilities
- Enabled physically accurate boat simulations by linking MathWorks Simulink to UE, following Agile methodology
- Accelerated environment creation and enabled sensor simulation via editor/runtime tools conveniently packaged as plugins

FPGA Video Game   **April 2022 – May 2022**
- Created a 2D galactic shooter game in a team of two to run on an FPGA, controlled by keyboard, displayed on VGA
- Inferred on-chip ROM to hold palette-based sprites, designed a state machine, and combined SystemVerilog and C logic
- Implemented a dynamically updated array of missiles, modularized for efficient expansion- more weapons/enemies/players
- Setup Github for Version Control and to track bugs, taught key Git skills to teammate, enabling easy collaboration

x86-Based OS   **March 2022 – May 2022**
- Developed the core of an Operating System, transforming class concepts and online documentation into functioning code
- Learned and executed a virtualized RTC driver, Paging, and a File System, based on an x86 32-bit architecture on Linux
- Drove quick development in a team of three using personal branches on GitLab, documenting bugs (issues) and code

MEMIC   **June 2020 – August 2020**
Application Development Intern (Remote)   Portland, ME
- Demonstrated key features to replace a legacy site, building a dynamic web application despite limited documentation
- Enabling dynamic data from SharePoint in JavaScript, security, and personalized user content; made use of existing API
- Understood and delivered on several requirements, coordinating and collaborating in a skill diverse team

Autonomous Backing Car   **November 2019**
- Designed and constructed an autonomous model car using a sensor for object detection and a basic avoidance algorithm

Record-Keeping Database/System   **May 2019**
- Built a dynamic record system using abstract inherited classes, pure virtual functions, and the Standard Template Library

Delirious   **May 2017**
- Envisioned a 3D puzzle-based video game and taught myself Unity and C# skills to execute it. Contrived three levels with unique themes and music, a first-person view, and dynamic environments.

University of New England   **July 2016 – August 2016**
Web Developer   Portland, ME
- Achieved longevity by enabling non-developers to effortlessly maintain and update the site and to view data online
- Greatly increased productivity of lab workers by upgrading an online tool to run on multiple local files using a Shell script

Skills (P- Proficient, A- Advanced, I- Intermediate)

Programming Languages: C/C++, Python (P), Assembly, SystemVerilog (A), SQL (I)
Technologies: Linux, Git, x86, VS Code, Unreal Engine/Unity (A), FPGA, Quartus Prime, NIOS II (I)
World Languages: English, Hindi, Marathi (P), Spanish (I)