

Arjun Simha

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Summary of Skills

- 7 years of professional and freelance experience in product design and prototyping using CAD software (Rhino and V-Ray) and hands-on experience with CAM machinery (FDM and SLA 3D printing, CNC machining, and laser cutting).
- Skilled in circuit design/analysis, PCB design, signal processing, computing, FPGAs/microprocessors, and digital logic.
- Experience with Java, C++ (Arduino), SystemVerilog, Python, HTML, CSS, and JavaScript.
- Product and project management experience in a professional and entrepreneurial setting.
- Held several leadership positions in college and high school – training and mentoring peers and colleagues.
- Awards & Certifications: CompTIA IT Fundamentals+, StartupUW Startup Studio (2nd), Deloitte Team Tech Challenge (3rd).

Education

UW - SEATTLE | B.S. ELECTRICAL & COMPUTER ENGINEERING | HONORS PROGRAM | SEP 2020 – JUN 2024 | GPA: 3.7

- Relevant Coursework: Embedded Systems, Computer Architecture, Data Structures & Algorithms, Digital Circuits/FPGA Design, Digital Devices, Signal Processing, Analog Circuits, Circuit Theory, Java, Engineering Statistics, Differential Equations, Linear Algebra, Multivariate Calculus, Data Science and Machine Learning, Honors Physics.

INGLEMOOR HIGH SCHOOL | IB DIPLOMA PROGRAMME | SEP 2017 – JUN 2020 | GPA: 4.0

- Activities: TSA (Technology Student Association), National Honor Society, DECA, FBLA, LINK Student Leadership.

Work Experience

ELECTRICAL ENGINEERING INTERN | MONOD BIO | AUG 2022 – PRESENT

- Developed, prototyped, and manufactured a handheld device to enable the reading and analysis of protein biosensors.
- Programmed microcontrollers and created complex digital and analog circuits to control and automate microfluidic pneumatics, precisely control temperature, simulate biosensor light emission, and precisely scan and read proteins.
- Utilized/implemented solenoid valves, electronic regulators, stepper motors, PID controllers, Peltier coolers, and pumps.
- Designed and created product mock-ups, renders, and animations for business/investor demonstrations and user testing.
- Managed budgets and worked with vendors to purchase and construct critical manufacturing tools and equipment.
- Prototyped, manufactured, and built tools and instruments used in the protein production and purification process.

FREELANCE PRODUCT DESIGNER | FIVERR & UPWORK | APR 2020 – PRESENT

- Successfully delivered 30+ freelance projects on time and on budget. Projects range from animating solar-powered water collectors to designing consumer electronics devices, employing skills in design, 3D modeling, and rendering/animation.
- Harnessed skills in marketing, sales, communication, personal branding, SEO, customer retention, and pricing negotiation to secure repeat business with entrepreneurs, startups, and corporations.

TECHNICAL ADMINISTRATOR/PROJECT MANAGER | UW COMOTION LABS HARDWARE INCUBATOR | MAY 2021 – SEP 2022

- Project managed more than 20 internal and external-facing initiatives. Key projects include the rollout of a 5G server, the development of a woodshop, and the construction of a homebuilt injection molding machine.
- Managed \$500K+ in budget and inventory to create a plan to increase the capability and capacity of the incubator.
- Trained 30+ upperclassmen to utilize the tools in the lab to prototype Capstone projects in the health sector.
- Consulted with 8 startups to leverage advanced prototyping and production processes for a variety of applications.
- Gained hands-on technical experience assembling, maintaining and operating FDM and SLA 3D printers, CNC machines, laser cutters, injection molders, vacuum formers, electrical prototyping equipment, and woodshop tools.

DESIGN & MANUFACTURING INTERN | VIOLETT INC. | SEP 2021 – AUG 2022

- Led prototyping and small-batch production of 9 components that were integral to the novel air purification device, using advanced computer-aided manufacturing processes such as laser cutting and large-scale 3D printing.
- Assisted with continual redesign and development, and scaling manufacturing/assembly processes for mass production.
- Completed deliverables under tight deadlines in order to meet project timelines and logistics milestones.

TECHNICAL LEAD & ADVISOR | UW WOOF 3D CLUB | JAN 2021 – JUN 2022

- Co-led weekly meetings for ≈100 club members, founded a team creating 3D-printed hummingbird feeders/skeletons.
- Aided in a major transition involving changes in departmental sponsorship and reconfigured >\$25K in equipment.

UNDERGRADUATE RESEARCHER | UW MAKEABILITY LAB | JUL 2019 – SEP 2021

- Collaborated with graduate students on research in 3D-printed assistive technologies and energy storage mechanisms.
- Utilized and acquired skills in 3D modeling, robotics, generative algorithms, app design/programming, and HCI/HCDE.
- Employed advanced 3D printing technologies, techniques, and materials, such as conductive filament traces.

Personal Projects

- **8-BIT BREADBOARD COMPUTER:** Developed understanding of CPU architecture, digital logic, and circuit theory.
- **PERSONAL WEBSITE:** Skills learned include HTML, CSS, Netlify, GitHub, Google Search Console, and Google Analytics.