

Abhay Gupta

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Current: [Seattle, WA 98104](#)

Portfolio: [abgup.com](#)

U.S. Citizen

After taking leave to help with family, I am transitioning back into the industry once the right job arises. Currently, I spend most of my time on personal engineering projects, website development, mentoring college and high school students, volunteering at a bicycle repair coop & makerspace, and a variety of sports and hobbies.

SKILLS

Languages	Frameworks	Software Tools	Modeling/Analysis	Hardware Tools
<ul style="list-style-type: none">• Python• C# & Lua• Javascript & VBA• HTML/CSS• Bash & Powershell• Vimscript• C/C++ & LabView• LaTeX & Maple• Matlab/Simulink	<ul style="list-style-type: none">• WinForms/WPF• Flask• Jekyll• Cordova• JQuery• Next.js	<ul style="list-style-type: none">• Git• Cmake• Docker• Figma• Microsoft Office• Linux	<ul style="list-style-type: none">• SolidWorks• Siemens NX• OnShape/AutoCAD• Ansys CFX• Star CCM+• Abaqus	<ul style="list-style-type: none">• 3D Printers• Lathe/Mill• Woodshop• Oscilloscopes• Soldering• Function Generators

INDUSTRY EXPERIENCE

Kawasaki Robotics SW Engineer, Robotics	<ul style="list-style-type: none">• Developed software to move wafer handling (scara) robots• Tested physical robotics arms on local and vendor facilities to ensure functionality• Optimized for throughput and reach requirements to maximize computer chip production capability	Jun 2022 - Aug 2022
AS - Domain Specific Language		
SummerBio SW Engineer, Robotics	<ul style="list-style-type: none">• Developed software drivers (6 DOF arms, benchtop systems) for VWorks• Built communication platforms through both Ethernet and serial port protocols• Built hardware testing rigs to ensure new hardware/drivers work with automation line• Unit tested drivers through manual isolation testing and automated via c# test framework, xUnit	Oct 2021 - Feb 2022
C# Figma OnShape		
Lam Research SW/ME Engineer 1y6m	<ul style="list-style-type: none">• Led and assisted Android app development via Cordova (JS) framework• Developed/Maintained software to optimize a 6 DOF robotic arm via C# WinForms• Built communication protocols for hardware components via Modbus, Ethernet, and Bluetooth protocols• Physically tested software and hardware in clean room environment via systematic approach• Analyzed test results via data science techniques to ensure repeatability and reliability metrics• Led development of and maintained a fishbone diagram issue diagnosis application with offshore developers via C# Xiamarin Framework on Windows and Android• Automated Android content upload and verification via VBA excel automation tools• Worked alongside machinists to develop custom test rigs and hardware components (sheet metal, aluminum/steel parts, injection molded designs, etc) for robotics arm applications• Designed and printed custom 3D components on a MakerBot and local vendors• Designed a custom electronics cart via Siemens NX fitting custom components and facility constraints	May 2020 - Oct 2021
C# JavaScript Python VBA Figma NX Teamcenter		
CSAA Insurance Physics Consultant 2y	<ul style="list-style-type: none">• Evaluated novel engineering and physics aspects for patent applications• Researched alternative approaches for products and methods	Oct 2018 - Oct 2020
University of Washington Research/Teach Asst. 1y3m	<ul style="list-style-type: none">• Taught and led students in graduate mathematics courses for engineering• Developed a custom physics simulation of Optical Tweezers via OpenGL in C++• Created a digital twin of a compliant motor and optimized model via novel regression techniques.	Sep 2018 - Dec 2019
C++ Python OpenGL ROS		
Santa Clara University Research/Teach Asst. 1y9m	<ul style="list-style-type: none">• Simulated biological membrane fracture through AI methods (<i>see paper</i>)• Assisted teaching course in Numerical Analysis to undergraduate engineering students	Sep 2016 - Jun 2018
Matlab/LaTex		

EDUCATION

University of Washington	M.S. Robotics & Data Science • Thesis - 3D Graphics & Regression Models 3.6 • Advisors: Steve Brunton & Ashis Banerjee Python MATLAB C++	Sep 2018 - Dec 2019 OpenGL ROS
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EDUCATION (continued)

Santa Clara University	M.S. Computer Engineering • Half Completed Transferred to University of Washington 3.8 B.S. Mechanical Engineering • Entrepreneurship minor Graduated in 3 years with honors 3.6 MATLAB LaTeX C Simulink LabVIEW Maple Lathe Mill	Sep 2017 - Jun 2018 Sep 2014 - Sep 2017 SolidWorks Abaqus Star-CCM+ Oscilloscopes
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PUBLICATIONS, CONFERENCES & PATENTS

Automobile Damage Detection Using Thermal Conductivity J. Schow, and A. Gupta (US Patent)	Dec 2018
A Cellular Automaton for Modeling Non-Trivial Biomembrane Ruptures A Gupta, G. Reint, I. Gozen, and M. Taylor Presented at <i>The 13th World Congress in Computational Mechanics (WCCM)</i> Session: Novel Mathematical Models and Computational Methods, New York, NY Published in <i>Soft Matter</i>	July 2018 Sep 2018
Certifications:	Engineer-In-Training, State of CA Solidworks CSWA
	May 2018 Mar 2015

VOLUNTEERING ACTIVITIES

Auto Angels, Bellevue Car Mechanic	Jun 2024 - Present
Rainier Scholars, Seattle Computer Science Curriculum TA/Development Assistant Python	Jun 2024 - Present
The Bikery, Seattle , Bicycle Board Member & Technician	Nov 2023 - Present
Capitol Hill Tool Library, Seattle Shop Manager Onshape , Machine Shop Tools (metal/wood/acrylic)	May 2024 - Present
San Jose Bicycle Coalition (SJBC) , Software & Data Consultant	Jul 2020 - Present
Santa Clara University , Alumni Engineering Mentor HTML , CSS , Javascript , Python	Oct 2023 - Present
San Jose Bicycle Clinic , Bicycle Technician	Jul 2020 - Present
FIRST Robotics Competition (FRC) 254, 5940, 1983, & 4180, Engineering Mentor JAVA , Onshape , SolidWorks	Aug 2021 - Present
Reddit Group: r/ControlTheory , Moderator	Dec 2018 - Present

PROJECTS

206 Bike Polo	• Update and maintain website using Javascript framework (Next.js) HTML CSS Javascript Next.js	June 2024 = Present
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INTERNSHIPS || 2y

Microvision SDE Intern 3m	• Modeled the response of Lidar activated SiPM (Silicon photomultipliers) Simulink MATLAB LTSpice	Summer 2019
TheraNova SDE Intern 3m	• Developed a python software analysis system to understand gait measurements • Ensured the software analysis is accurate for 80+ patients Python MATLAB	Summer 2018
Valeo Systems Engr Intern 3m	• Produced hardware and software demos for automotive OEMs • Collaborated with start-ups and OEMs to develop new cabin safety features VBA	Spring 2018
Pentair ME/EE Intern 7m	• Optimized performance of steady state and transient phases of circuit breakers • Laboratory tested and simulated rail heating to melt snow Ansys CFX Solidworks Oscilloscopes , Function Generators , DC/AC Power Supplies , Soldering	Winter 2017

Accel Biotech
ME Intern || 3m

- Prototyped medical device components and test assemblies
- Supported mechanical, electrical, and software design of a blood diagnostic device

Summer 2016

[SolidWorks](#)

[Oscilloscopes](#)

Caltrans
ME Intern || 3m

- Reviewed and advised on structural testing for next generation locomotives
- Designed a floor plan using [Microsoft Visio](#) & participated in vendor meetings

Summer 2015

HOBBIES

Sports

- Juggling
- Handstands
- Bicycling
- Unicycling
- Bike Polo
- Basketball

Sports

- Soccer
- Tennis
- Calisthenics
- Weight Lifting
- Skateboarding
- Rollerskating

Indoor

- Board Games
- Rubix Cube Solving
- Running
- Dancing
- Music
- Socializing

Indoor

- Walking
- Reading
- Video Games
- Cooking
- Eating
- Yoga

Miscellaneous

- Coding
- Blogging
- Youtube
- Comedy
- Reddit
- Tinkering

For more: [abgup.com](#)