Elvio A. Sadun

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EDUCATION

Massachusetts Institute of Technology (MIT) | Cambridge, MA   June 2006

Bachelor of Science in Aeronautics and Astronautics (XVI-2), Bachelor of Science in Physics (VIII)

- Extensive coursework in advanced physics, differential equations, linear algebra, statistics, structural analysis, materials, thermodynamics, artificial intelligence, algorithms, control theory, and realtime systems. Research in particle physics.
- Won engineering competitions with mechatronics, fabrication, machine vision, control systems, and path planning.

WORK EXPERIENCE

Elvio Sadun Consulting | Monrovia, CA   2020 – Present

Freelance Engineer

- Led client team in design, fabrication, and testing of novel heavy-lift drone, including all mechanical and electrical elements. Acted as liaison to outside testing and fabrication resources.
- Oversaw design of remote microprocessor infrastructure to monitor environmental systems across hundreds of acres.
- Designed new chairlift system and directed management of resort's existing motor drive systems, including the fault sensing equipment, custom drive panels, and all mechanical components. Fixes often required fabricating new parts.
- Developed new portions of a production mobile application with tens of thousands of active users.
- Re-engineered production satellite communication system with its backend services to make it more modern, scalable, and secure, while supporting all infrastructure necessary to provide connectivity for off-grid users.

Ad Astra School at SpaceX (now Astra Nova School) | Hawthorne, CA   2015 – Present

Program Designer and Instructor

- Teacher since inception at experimental full-time school for the children of SpaceX employees. Created curriculum and instructed courses in aerodynamics, earth science, computer science, and engineering. Led groups of elementary, middle, and high school-aged children in classroom experiences that center on critical analysis and problem solving.

3 Legged Dog, Inc. | Glendale, CA   2011 – 2020

Software Engineer

- Managed developers and designers as team leader in an Agile setting, coordinating directly with product stakeholders.
- Developed enterprise apps for media entities such as Disney, Sony, Fox, Warner Bros., LA Rams, and Viking Cruises.
- Integration with existing production Java and .NET project environments.
- Designed schemas and system architectures from scratch, focused on security, scalability, and performance.
- Created backend web services, database-driven scheduled processes, and responsive mobile-ready webapps.
- Wrote, deployed, and managed native applications for enterprise iOS costumers.

STEM PROGRAM ORGANIZER AND INSTRUCTOR

- Developed and led multiple dynamic engineering camps, where students engaged in hands-on build challenges uniquely tailored to each camp's theme and environment. Also adapted and led shorter STEM events for local communities.
- Taught a summer program for gifted high school students in conjunction with USC's Viterbi School of Engineering. Students in the program constructed internet-connected hardware prototypes of novel products of their own design.
- Partnered with Proctor and Gamble to host a multi-day space-themed seminar to encourage women's participation in STEM fields. Led the design and construction of a custom mechanism to simultaneously launch all 200 of the students' rockets as the event's finale. See media coverage at: https://bit.ly/2YEgWAI

PROFICIENCIES

- Programming Languages: C, C++, Objective C, C#, Swift, Python, Java (Swing/Spring/Hibernate), JavaScript (jQuery/AngularJS/React), HTML5, CSS, PHP, Scheme, MATLAB. SQL and NoSQL databases.
- Cloud and Infrastructure: AWS (EC2, S3, Lambda, SQS), Docker, CI/CD tools, infrastructure as code, Git, Subversion
- Hardware and Industrial Systems: PLCs, structured text, ladder logic, 3D modeling, deposition printing, laser cutting, welding, machining, woodworking
- Software Tools: Visual Studio Code, NetBeans, Eclipse, Xcode, LaTeX, SolidWorks
- Project Management: Agile methodologies (including acting as a scrum master), Jira, Confluence, block diagrams

ACTIVITIES AND INTERESTS

Ongoing participant in trail running, skiing, and competitive tablescaping

UMN Men's Club Water Polo Team, MIT Men's Ultimate Frisbee Team, MIT Solar Electric Vehicle Team   2001 – 2007