Ashwin Sundar

Senior Software Engineer	
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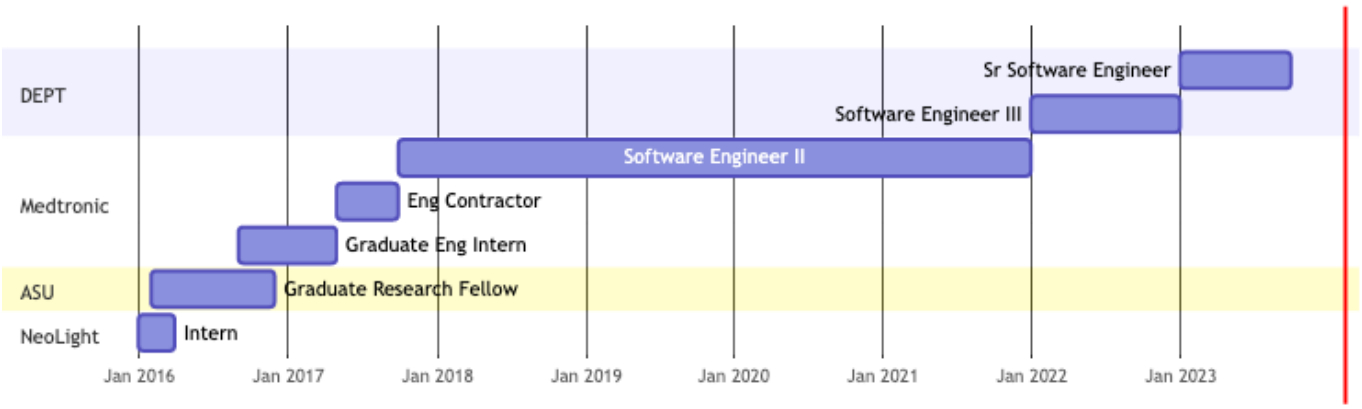
Technical Skills

About: Technical skills are difficult to assess. This table is intended to communicate my technical proficiencies and amount of experience with each, in an objective and honest manner.

Skill/Technology	Experience	Engagement per week	Recency	Comments
Version Control				
git	2 years	daily usage	Current	
subversion	6 months	weekly usage	2017	
CI/CD				
GitLab	3 months	daily usage	2023	
GitHub Actions				
Azure Pipelines				
Cloud Providers				
AWS	6 months	weekly usage	Current	
DigitalOcean	3 months	weekly usage	Current	
Databases				
Postgres	6 months	weekly usage	Current	
ObjectStore	4 years	weekly usage	2018-2022	
Redis	6 months	weekly usage	2023	
SQL	1 year	daily usage	2018	
Developer Tools				
Docker	6 months	weekly usage		
MQTT	3 months	daily usage	2023	
Web Technologies				
HTML + CSS	8 years	daily usage	Current	
Tailwind CSS	1 month	daily usage	Current	
Bootsrap CSS	2 years	daily usage	2018 - 2020	
jQuery	2 years	daily usage	2018 - 2020	
Javascript	3 years	daily usage	recent	
Typescript	1 year	daily usage	recent	
React/Gatsby	6 months	daily usage	2022	
React/Next.js	1 month	daily usage	Current	
Django	6 months	daily usage	Current	
OG Programming				
Go	3 months	daily usage	2023	
R	6 months	daily usage	2016	
Python	1 year	daily usage	Current	
C++	1 year	daily usage	2023	embedded software
Rust	6 months	daily usage	2022	coursework only
Standard ML	3 months	daily usage	2023	coursework only
zsh	2 years	daily usage		
Objective-C	6 months	daily usage	2015	coursework only
Programming Philosophies				
Functional Programming				

Skill/Technology	Experience	Engagement per week	Recency	Comments
Object-Oriented Programming				Still my default way of programming, although recently I am growing to love blending functional techniques in where appropriate.
SOLID/DRY Principles				I think DRY is often taken too far, so I believe in knowing as much as about one's code as possible. External dependencies should be treated as SOUP (Software of Unknown Provenance), and should be understood deeply.
Software Development Philosophies				
Agile/Scrum				
Test-Driven Development	1 year	weekly engagement	2022-2023	Terumo
Engineering Philosophies				
Design for Six Sigma				
Industrial Statistics				
Requirements and Risk Management				
Voice of Customer	MDT Green Belt - explain what this is			
Soft Skills				
Public speaking / oratorical skills	15+ years	varies	2006 - present	From Speech and Debate in high school, to various teaching and training arrangements through my working career, I have always prided myself in being a good communicator.

Work History



DEPT (January 2022 - present) - Denver, CO

Roles

- Sr Software Engineer (January 2023 - present)
- Software Engineer III (January 2022 - January 2023)

Client: National Renewable Energy Lab (NREL) + United States Department of Energy (DOE) (January 2024 - present)

- Web application for Grid Deployment Office
- **Tools used**: Typescript, React/next.js, AWS, Postgres, Docker, GitHub Actions

Client: Major Terrestrial Communications Provider (August 2023 - December 2023)

- Satellite communications integration
- **Tools Used**: Golang, AWS, Postgres, Docker, GitLab

Client: Medical Device Manufacturer (August 2022 - July 2023)

- Embedded Linux (C++)
- Mentorship of junior engineers
- **Tools used**: C++, gdb, catch2, shell scripting, Linux Fedora, GitHub

Client: Restaurant chain (January 2022 - August 2022)

- Full-stack web development for high-visibility business homepage
- **Tools used**: Gatsby/ReactJS, GraphQL, Azure DevOps, git

Medtronic (October 2017 - January 2022) - multiple locations

- Software Engineer II (October 2017 - January 2022) - Denver, CO
  - Full-stack web solution for requirements and risk management
  - Developed/delivered software training to users in Colorado, Massachusetts, Florida, and Shanghai
  - Awarded 2018 Medtronic Beacon Award
  - Completed DRM Green Belt project, estimated business savings of $1.6 million per year
  - **Tools used**: Cognition Cockpit, Javascript/jQuery, HTML/CSS, ObjectStore, Tableau, SQL, R
- Software Requirements Engineer (May 2017 - October 2017) - Minneapolis, MN
  - Wrote software requirements describing heart monitoring system
- Graduate Engineering Intern (August 2016 - May 2017) - Phoenix, AZ
  - Implemented industrial statistics software tools, primarily around Design for Six Sigma
  - Awarded internal trade patent for healthcare analytics application
  - **Tools used**: SQL, Tableau, R, Subverison, Cognition Cockpit, Javascript/jQuery, HTML/CSS

Education

B.S. Neuroscience - University of California, Los Angeles

M.S. Biomedical Engineering - Arizona State University

- IDENTIFICATION OF CARDIAC ARRHYTHMIAS IN ELECTROCARDIOGRAPHY DATA USING EMPIRICAL MODE DECOMPOSITION
  - **Advisors:** Dr. Jeff LaBelle, Dr. Mark Spano, Dr. Heather Ross
  - **Abstract:** Electrocardiography (ECG) data is often subject to frequency domain techniques, such as Fourier and wavelet analysis, in order to deconstruct and understand the relationship between cardiac disease and electrical activity in the heart. However, ECG artifacts are typically brief, making frequency domain analysis challenging. An alternate method of analysis, empirical mode decomposition (EMD), may be more appropriate for analyzing short windows of data, since data analysis never leaves the time domain. EMD was applied to more than 2,000 ECG waveforms spanning a range of subjects and arrhythmia types from the MIT-BIH Arrhythmia Database. Physician annotations were used to window and sort waveforms, and EMD was used to deconstruct waveforms into intrinsic mode functions (IMF). An average IMF for each arrhythmia and the healthy ECG waveform was calculated. IMFs from each arrhythmia were then compared with IMFs from healthy ECG data. This comparison can be thought to represent a unique signature of each arrhythmia type.Electrocardiography

Independent Study

- Programming Languages Specialization (In Progress, Coursera/U Wash)
- Accelerated Computer Science Fundamentals Specialization (Coursera/UIUC)
- Ultimate Rust 2 - Intermediate Concepts (Udemy)
- Rust Fundamentals (Pluralsight)
- HTML, CSS, and Javascript for Web Developers (Coursera)
- Introduction to UI Design (Coursera)
- Circuits and Electronics I: Basic Circuit Analysis (MIT OpenCourseware)
- Discrete Mathematical Structures (Mesa Community College, Grade: A)
- Calculus III (Mesa Community College, Grade: A)
- Linear Algebra (Mesa Community College, Grade: A)
- Differential Equations (Mesa Community College, Grade: A)

Awards and Certifications

- 2018 Medtronic Beacon Award
- DRM/DFSS Green Belt (Medtronic, 2018)
- 2017 Medtronic Internal Patent #A000****
- 1st place, Mesa Community College Math Contest (2014)