A.N. Shyam Sundar

https://anshyamsundar.github.io/PersonalWebsite/

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EDUCATION:

University of London, London, UK   Expected Dec 2025
Bachelor of Laws

Clemson University, Clemson, SC   May 2011
Master of Science in Electrical Engineering   GPA: 4.00/4.00
Minor: Computer Science

National Institute of Technology, Tiruchirappalli, India   June 2009
Bachelor of Technology in Electronics and Communication Engineering   GPA: 8.26/10.00

RELATED EXPERIENCE:

Software Engineer, DCG Systems/Thermo Fisher Scientific   Jul 2012-Present

- **Principal Developer and Maintainer** of Nanoprober and AFM product lines
- Train manufacturing teams and oversee all production systems' software
- Spearhead development of Image Processing/Vision Algorithms
- Software security, licensing, contracts and legal review/compliance
- Hardware interfacing via APIs and protocols
- Develop utilities to aid tool configuration, management and enhancements
- Troubleshooting, customer escalations and field support

Electrical Controls and Software Engineer, Qualitek-VIB   Aug 2011-Jul 2012

- **Lead Applications Engineer** for core product lines – QCS and PCS
- **Principal Developer**, new product line – ProTrace Plant Process Monitoring
- Allen-Bradley, Modicon PLC programming, troubleshooting and support

SELECT ENGINEERING PROJECTS:

- Freeze Switch and Load Testing modules for Nanoprober 5   Jan 2025-Nov 2025
- Security and penetration testing for Nanoprober 5 qualification   Jun 2025-Nov 2025
- Probe motion and path-planning algorithm   Jan 2025-Jun 2025
- Hyperion Atomic Force Microscope platform migration   Jan 2024-Dec 2024
- Nanoprober platform migration   Jan 2022-Dec 2023
- Automated probe landing   Jan 2020-Dec 2021
- EBIRCH module to enable EBAC/EBIC imaging   Jan 2019-Dec 2019
- Nanoprober LR and HP product line development   Jan 2017-Dec 2018
- Reverse engineering Atomic Force Microscope   Jan 2016-Dec 2016
- Automated Cross Cleaning   Jun 2014-Jan 2016
- Probe tip detection and auto-focus/wobble/stigmation algorithm   Dec 2012-Jun 2014
- PLL-based force feedback module   Jul 2012-Oct 2012
- ProTrace Plant Process Monitoring Software   Dec 2011-Jun 2012
- Graduate Thesis: Pose estimation and robotic disassembly   Jan 2010-Apr 2011
- Development of a Universal Robotic Gripper   Dec 2010-Mar 2011
- Development of a Bluetooth-based Device tracking system   May 2010
- Control of Mobile Robot using Hand-Gestures   Mar-Apr 2010
- Enhancement of NASA's Moon Landing Videos   Nov-Dec 2009
- Development of an Amphibious Robotic Vehicle   Jan-Mar 2009
- Designed and Implemented a purely hardware-based Line-Follower Robot   Jan-Mar 2007

LEGAL WORK:
- Public impact litigation and advocacy, Bhavsar v Const LLC   May 2023-Present
- Public impact litigation and advocacy, Re Prime Core Technologies, et al   Aug 2023-Present
- Assist Pro Se litigants in family court, bankruptcy and civil litigation   Aug 2018-Present
- Public impact litigation and advocacy, Re BlockFi Inc., et al   Nov 2022-Jan 2023
- Public impact litigation, Collin County Commissioners Court   Oct 2017-Dec 2017
- Texas Small Claims Court filings and arguments   Dec 2013-Dec 2015

SOFTWARE SKILL SET:
Languages:
C#, C, C++, Python, Java, Visual Basic, Perl, LISP, SQL, HTML, PHP, Javascript, Ajax, Windows scripting, Verilog, Assembly languages of microprocessor 8086, microcontrollers 8051, 6811, 6812 and the ARM Processor.
Packages, Frameworks and Libraries:
Visual Studio, Dot Net, ASP.NET, gRPC, LightningChart, NI Measurement Studio, Syncfusion Essential Studio, RSLogix 500 and 5000, RSLinx, Aria, AutoCAD, jQuery, Matlab, Octave, Blepo, OpenCV, EmguCV, OpenGL, PyBlueZ, PySerial, Xlrd/Xlwt, Notepad++/Regex, LaTeX, MathType, Magick++, CommSim 7, Photonics CAD, Proteus ISIS, Code Composer Studio, Keil, Adobe Photoshop, GIMP, Inkscape, Quartus, VIRCA, Oracle, NetBeans, VMWare ESXi, TortoiseSVN and Git.
Operating Systems:
Windows, Linux (Ubuntu, CentOS), UNIX and Android.
Certifications:
Certified ScrumMaster, Heartsaver First Aid CPR AED.

LEGAL SKILL SET:
Legal strategy, research, drafting, filing, litigation, contract review and negotiation.

SELECT PATENTS, PUBLICATIONS AND RESEARCH:
- Capacitance-based detection of probe contact, **Shyam Sundar Aswadha Narayanan** (US Patent application US-20240385238-A1)
- "Pose Estimation for Robotic Disassembly using RANSAC with Line Features" – **Shyam Sundar**, Dr. Richard Groff
- "CPW Structures and Discontinuities" – **Aswadha Narayanan Shyam Sundar**, Dr. S. Raghavan, Mr. D. Sriram Kumar (International Conference, ICOICT 2009)
- "Implantable Antennas" – **Aswadha Narayanan Shyam Sundar**, Dr. S.Raghavan, Mr. D. Sriram Kumar (International Conference, ICOICT 2009)

ACHIEVEMENTS AND AFFILIATIONS:
- Peer Recognition Awards, Thermo Fisher Scientific, 2021, 2022, 2024, 2025
- Outstanding Employee Award, DCG Systems, 2015
- Bravo Award, DCG Systems, 2013, 2014 and 2015
- First place, United Nations Examination, Gulf region
- Member, Alpha Epsilon Lambda Honor Society, Clemson University Chapter
- Member, Omicron Delta Kappa Honor Society, Clemson University Chapter
- Member, Institute of Electrical and Electronics Engineers

SELECT ACTIVITIES AND LEADERSHIP:
- Member, Thermo Fisher Scientific Environmental Health and Safety Committee
- Graduate Student Mentor, Clemson University
- Member, OSUM Club, Clemson University
- Team Leader, National Service Scheme (NSS) Camp, NIT Tiruchirappalli