

Uma Subbiah

Chicago, Illinois

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Google Scholar: [\[link to profile\]](#)

Education

- University of Oxford** Oxford, UK
Master of Science in Computer Science, Distinction (in both coursework and thesis) Oct 2020 – Sep 2021 | 1 year
Select Coursework: Machine Learning, Requirements, Computer Aided Formal Verification, Computers in Society
Thesis: “Automated Classification of Cardiac Action Potential Phenotypes for Prediction of Drug-Induced Pro-Arrhythmic Risk”. Research conducted with the Computational Cardiovascular Science group, Oxford.
- Amrita Vishwa Vidyapeetham** Coimbatore, India
Bachelor of Technology in Computer Science & Engineering Jul 2016 – Jun 2020 | 4 years
GPA: 9.91/10, 1st Class, Distinction, Gold medalist for highest graduating GPA
Select Coursework: Software engineering & Project Management, Machine Learning, Databases, Cloud Computing

Experience

- McDonald's Corporation** Chicago, Illinois | Sept 2022 – Present
Software Engineer II
(Oct 1st 2023 – Present)
 - Pioneering Software Launches** – Spearheading software feature development, defect resolution, and deployments, ensuring seamless digital ordering launches in major and lite markets, while enhancing app performance and reliability.
 - Driving Global Expansion & Stability** – Delivered software to handle 30+ restaurant parameters, aligning digital and store calculations. Owned stakeholder communication, revamping 3rd-party order integration with our software, tax implementations digital order history unification, and built a processor for real-time kitchen order status tracking.
 - Chosen for High-Impact Initiatives** – Representing the ordering capability on a lead market adoption squad to accelerate software time-to-market & app launches in 4 major markets (in addition to the US) & ensure real-time production stability.**Software Engineer I**
(Sept 12th 2022 – Sept 30th 2023)
 - Core Backend Engineer** – Developed and maintained RESTful API software for digital order validation, totalization, and fulfillment in the McDonald's app across global markets. Implemented backend fixes for 10+ promotions across multiple countries and added software implementation for 10+ offer types, optimizing for seamless upgrades.
 - Enhancing Software Automation & Compliance** – Built 20+ Postman collections for automated software verification, improved test coverage across 5+ services, adapted existing code to account for tax regulations in various global markets.
- Software Engineer, Matician, Inc.** Mountain View, California | Nov 2021 – Sept 2022 | 10 months
 - Engineered computer vision & deep learning solutions, as an integral member of the Perception Software Team.
 - Automated the calibration of robots, reducing the necessary human-involvement from >1.5 hours to 5 minutes per robot.
 - Achieved < 4cm translational & negligible rotational error with an autonomous docking algorithm I designed.
 - Integrated stereo camera rectification tests, reducing camera calibration test time from 15-20 mins to 2-3 mins per robot.
- Graduate Research/Thesis Work, University of Oxford** Oxford, UK | Apr 2021 – Sept 2021 | 5 months
 - Worked in the Computational Cardiovascular Science group to engineer software that enhance cardiac drug safety.
 - My contribution was presented at the 2021 Safety Pharmacology Society's Annual Meeting the 2021 Cardiac Physiome.
 - Awarded the 2021 SPS Student Award & won the 1st place in SPS Junior Investigator Poster Contest for achieving 99.87% accuracy and 98.46% accuracy for predictions on the ORd and ToR-ORd models respectively.
- Lead, Developer Student Club by Google Developers** Coimbatore, India | Jan 2019 – Jul 2020 | 1 year 6 months
 - Conducted over 7 workshops & hackathons; trained over 300 students on campus; increased student participation to 3-digit registrations. Invited (and sponsored) to the India DSC Summit by Google Developers at Goa, India
- Software Intern, IIT Madras Research Park** Chennai, India | May 2019 – Jul 2019 | 2 months
 - Developed a software prototype for predicting the presence of chronic kidney disease inpatients, using case-based reasoning and Java UI components.; my work was accepted for testing and verification, after the completion of my internship.
- Software Research Intern, Leeds Beckett University** Leeds, UK | Feb 2018 – Jul 2018 | 5 months
 - Devised a cloud-based machine learning solution to predict software bugs & reduce loss incurred by software companies.
 - Achieved an F1 score = 91.5% ML cloud-based service, presented at a conference in Portugal, published as a book chapter.
- Student Researcher, Smart Spaces Lab** Coimbatore, India | Sep 2017 – Jun 2020 | 2 years 9 months
 - Worked extensively on tasks involving object detection for intelligent living spaces.
- Software Intern, Seyyone Software Technologies** Coimbatore, India | Nov 2017 – Jan 2018 | 2 months
 - Implemented a retrieval-based service chatbot interactive software with machine & deep learning.

Awards, Honors & Certifications

- Earned Google Cloud's Cloud Digital Leader Certification June 2024
 - Selected to represent the McDonald's Software Engineering Team at the Grace Hopper Celebration Sept 2023
 - 1st prize for Poster (entry 8 under Publications), Safety Pharmacology Society's Junior Investigator Poster Contest Oct 2021
 - Student Award for abstract (entry 8, Publications), Safety Pharmacology Society's 2021 Annual Meeting Oct 2021
 - Google Developers Certified TensorFlow Developer & Honorary Member of the TensorFlow Certificate Network Jul 2020
 - Graduated with the gold medal and highest GPA among 380 students in my undergrad class. Jun 2020
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Select Projects – Please see the project section of my website (uma-subbiah.github.io/) for a complete list

- **Graduate Thesis Project**
 - Worked in the Computational Cardiovascular Science group at Oxford to engineer an automated software-based approach to classifying drug-induced heart abnormalities. Research presented at the Safety Pharmacology Society Conference (Oct 2021) & Cardiac Physiome Meeting – (Nov 2021). Please see entries 8, 9 under Publications.
 - **Undergraduate Final Project:**
 - Developed deep learning architecture and software solutions to enhance image analysis with applications in wildlife detection and image-based cancer detection – entries 2, 3 under Publications.
 - **IBM's Data Science Professional Certificate** - Capstone Project:
 - Identified 3 most ideal locations to establish a hospital in London, using data collection, analytics, and machine learning.
 - **Fuzzy Logic based Heart Disease Predictor:**
 - Engineered a user-friendly fuzzy logic software system to predict heart disease w/ Python, scikit-fuzzy & matplotlib.
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Programming Skills

- **Technologies:** RESTful APIs, Machine & Deep learning, Computer Vision, TensorFlow, PyTorch, Keras, Pandas, NumPy, Data Analysis and Visualization, SQL, Linux, Shell scripting, Git & GitHub, .NET, Postman, Terraform
 - **Languages:** Java, Python, C#, C, C++, JavaScript
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Publications – My research publications include 1 book chapter, 6 conference proceedings and 2 posters.

- Please see my Google Scholar profile here: [\[link to profile\]](#) for a complete list. (Also tabulated below)

(i) Book Chapter			Research Institution:	
1.	Jan 2020, Springer	Subbiah, U., Ramachandran, M. & Mahmood, Z., 2020. Software Engg. Framework for Software Defect Management Using Machine Learning Techniques with Azure. In Software Engg. in the Era of Cloud Computing (pp. 155-183). Springer	Leeds University	Beckett
(ii) Conference Proceedings				
2.	Sep 2020 IEEE	Subbiah, U., Kumar, R. V., Panicker, S. A., Bhalaje, R. A., & Padmavathi, S. (2020, July). An Enhanced Deep Learning Architecture for the Classification of Cancerous Lymph Node Images. In 2020 2 nd ICIRCA (pp. 381-386). IEEE.	Amrita Vidyapeetham	Vishwa
3.	Jun 2020 IEEE	Subbiah, U. and Padmavathi, S., 2020, February. Analysis of Deep Learning Architecture for Non-Uniformly Illuminated Images. In 2020 International Conference on Inventive Computation Technologies (ICICT) (pp. 38-43). IEEE.	Amrita Vidyapeetham	Vishwa
4.	May 2020 Springer	Subbiah, U. and Jeyakumar, G., 2020. Soft Computing Approach to Determine Students' Level of Comprehension Using a Mamdani Fuzzy System. In Intelligent Systems, Technologies and Applications (pp. 103-115). Springer, Singapore.	Amrita Vidyapeetham	Vishwa
5.	Jan 2019 Scitepress	Subbiah, U., Ramachandran, M. and Mahmood, Z., 2019, January. Software Engg. approach to bug prediction models using machine learning as a service (MLaaS), in Proceedings of the 13th ICSOFT 2018 (pp. 879-887).	Leeds University	Beckett
6.	Oct 2020, IEEE	Subbiah, U., D. Kavin Kumar, Thangavel S. K, P. Latha: An Extensive Study and Comparison of the Various Approaches to Object Detection using Deep Learning: Presented: Intl. Conf on Smart Systems and Inventive Technology, IEEE	Amrita Vidyapeetham	Vishwa
7.	Jun 2021, Springer	Sundaram, A., Ravishankar, H., Subbiah, U., Kadiresan, N., & Karthika, R. (2021). Case-Based Expert System for Smart Air Conditioner with Adaptive Thermoregulatory Comfort. In Intelligent Systems, Technologies and Applications (pp. 403-418). Springer, Singapore.	Amrita Vidyapeetham	Vishwa
(iii) Poster Presentations				
8.	Oct 2021	Subbiah, U., Rodriguez, B., Passini, E., A Machine Learning Model to Improve Identification of Drug-induced Abnormalities in Cardiac Repolarisation. Poster at: <i>Safety Pharmacology Society Annual Meeting</i> , 2021	University of Oxford	
9.	Nov 2021	Subbiah, U., Rodriguez, B., Passini, E., A Presentation on Machine Learning to Improve Identification of Drug-induced Abnormalities in Cardiac Repolarisation. Poster at: <i>Cardiac Physiome</i> , 2021.	University of Oxford	
