Karan Jayachandra

Date of Birth: 22/11/1994
Nationality: Indian (Dutch Resident)
Location: Rotterdam, Netherlands

+31647499001
me@karanj.com
karanj.com

Summary

I am an electrical engineer with over 7 years of experience in software and algorithm development, radio frequency (RF) system design, integration, and testing. Over the last 4 years, I have worked on integration and validation of RF systems with a focus on developing automated performance testing tools for automotive radar sensors.
My work includes full system integration testing and performance evaluation of reliability and latency in laboratory and real-world environments. I have strong experience in developing frameworks and test cases for RF system evaluation supported by RF measurements. I also am well versed in signal processing which enables rapid debugging, efficient root-cause analysis, and clear identification of system-level issues. I have hands-on experience across software, hardware, measurements, and testing, which enables me to effectively bridge cross-functional teams working on complex RF systems. I thrive in collaborative environments, value open technical discussions, and adapt quickly to team priorities.

Work Experience

Signal Processing and Test Engineer — September 2021 — Present
NXP Semiconductors — *Eindhoven, The Netherlands*

Designing and developing automotive radar systems specialization in the testing and development of algorithms. Creating technical requirements based on automotive radar scenarios supported by channel modelling and simulation. Performing statistical tests and the development of signal processing pipelines. RF measurements in laboratories while developing modular and extensible testing frameworks. Standardising way of working using best practices, creating tools and automation pipelines. Definition of test cases and plans for evaluation of performance of an RF system. Creating hardware in the loop testing flows with automation. Development of CI/CD pipelines for regression testing and reporting performance using statistics.

Thesis Student / Graduate Intern — August 2020 — August 2021
NXP Semiconductors — *Eindhoven, The Netherlands*

Developing automotive radar scenarios via channel modelling. Integrating the channel models into RF simulations allowing for realistic radar performance evaluation. Identifying bottlenecks in processing flows and proposing improvements via compression of channel data and architecture improvements. Standardising the way of working for 3D radar scene simulations across several teams across the world.

Development Consultant — August 2016 — July 2019
SAP Solution Delivery Center — *Bengaluru, India*

Developing and maintenance of proprietary database management systems (DBMS). Capturing complex data requirements and mapping functional requirements into technical requirements. Managing and organizing projects simultaneously across multiple global clients. Identifying key performance indicators and strong dimensions in the databases providing oversight to management. Designing and developing dashboards for easy overview of clients' internal processes. Conducting trainings for clients to allow for extensibility and deep dives.

Undergraduate Intern — April 2012 — July 2012
Defence Research and Development Organization — *Bengaluru, India*

Developing a professional work ethic while systematically working towards deliverables. Implemented ring oscillators on FPGAs which was later used for the fingerprinting of the same.

Technical Skills

Python	Testing and data modelling experience as part of a package development
MATLAB	Extensively worked on scripting for algorithm development and data generation
C/C++	Mostly used to create small scripts to interface with other programs
bash	Used for automating the training of machine learning algorithms based on CI/CD
HTML/CSS/Javascript	Used for the creation of static websites for standardised tools
Verilog	Basic experience as part of an internship to create simple components

Tools

git	Proficient in the use of version management for software development
jira	Several years of experience using agile development practices.
bamboo	CI/CD pipeline development allowing for automation and monitoring
uv	Managing python development and environments
docker	Managing automated build environments for programming and documentation
LaTeX	Typesetting internal and external documents extensively
npm	Building and packaging static sites and managing dependencies

Education

Technische Universiteit Delft — Delft, The Netherlands
M.S. in Electrical Engineering, Major in Signals and Systems — *August 2019 — September 2021*

- Cumulative GPA: 8.5/10.0
- Focus: Signal Processing, Radar Systems and Antenna Design
- Courses: Radar Systems, Antenna Systems, Electro-magnetics, Information Theory, Control System Design, Estimation & Detection, Ultra-Wide Band Systems, Applied Convex Optimization, Statistical Digital Signal Processing, Signal Processing for Communication, Microwave, Radar and Remote Sensing, Introduction to Wireless Communication

Amrita Vishwa Vidyapeetham — Bengaluru, India
B.Tech in Electronics and Communication Engineering — *July 2012 — August 2016*

- Cumulative GPA: 8.6/10.0
- Focus: Signal Processing, Radar Systems and Antenna Design
- Courses: Signals and Systems, Digital Signal Processing, Wireless Communication, Radio Frequency Engineering, Analogue and Digital Communication, Micro-controllers and Micro-processors, Transmission Lines and Radiating Systems, Information Theory and Coding Techniques

Recognition

Performance	NXP Top Achiever 2021, NXP Top Achiever 2022, NXP Top Achiever 2023
Awards	SAP Project of the Quarter Q1-2018, SAP Project of the Quarter Q2-2019
Papers	Second position at International Radar Conference Sydney

Hobbies

I am an amateur badminton player with a ranking below 500 in the Netherlands. I enjoy competing and play in the 4th division on the Dutch league. I am also very interested in chess and have played more than fifteen thousand games online and am in the top 15th percentile in world ranking on Lichess. I enjoying reading and music.