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Career Objective:

To pursue a highly rewarding career, seeking for a job in a challenging and healthy work environment where I can utilize my innovative skills and knowledge efficiently for growth of the organization and myself as well as in this innovative and competitive world.

Career Summary:

- **ECU Safeguarding with TARA analysis** : Conducted Threat Analysis and Risk Assessment (TARA) to safeguard ECUs from threats and risks.
- **Vulnerability Assessment**: Utilized the Medini tool to identify vulnerabilities, document risks and outline threat scenarios for future reference.
- **Cloud ECU Security**: Implemented security measures for cloud based ECU's ensuring protection on both public and private networks in accordance with WP29 and ISO21434 standards.
- Assisted in cryptographic key lifecycle management for secure OTA (Over-the-Air) software updates
- Expertise in cryptographic protocols & algorithms for secure communication, authentication, and encryption:
 - Symmetric Encryption: AES (128/256-bit), DES, 3DES
 - Asymmetric Encryption: RSA (2048/4096-bit)
 - Hashing Algorithms: SHA-1, SHA-256, SHA-3
 - Message Authentication Codes (MACs): HMAC, CMAC,
 - Digital Signatures: RSA-PSS
 - Secure Communication Protocols: TLS, SSH, MACsec
 - Secure Key Management: HSM-based key storage
- Implementation of secure boot, secure firmware updates, and hardware security modules (HSM) in automotive ECUs.
- Knowledge of CAN, CAN FD, LIN, FlexRay, Automotive Ethernet, and SOME/IP security mechanisms.
- Specification Development: Developed Functional and Technical Specifications (FCC & TCC) for TARA and vulnerability analysis, specifically for the silver box combi-meter.
- Engine ECU Security: Managed TARA, item definition, and damage scenarios, and developed ISO21434 work products for engine specific ECU.
- **Customer Requirement Understanding**: Worked with vehicle OEMs/Tier 1 suppliers to integrate security best practices into product development.
- **Threat Modeling with STRIDE** : Applied the STRIDE methodology to conduct threat modeling for various ECU architectures.
- Ability to coordinate tasks and meet deadlines as a team player possessing strong interpersonal skills and communication skills, quick learning and offering assistance.

Skills:

Skills Summary				
Sl No	Technology Skills	Domain Skills	Project Management	Industry Processes
1.	Threat Analysis and Risk Assessment (TARA)	Cyber Security	Automotive	Automotive Cyber Security
2.	Medini Tool	Cyber Security	Automotive	Automotive Cyber Security
3.	Mentor Graphics (AUTOSAR)	Cyber Security	Automotive	Automotive Cyber Security
4.	Network Protocols	Cyber Security	Automotive	Automotive Cyber Security
5.	CAN protocol	Cyber Security	Automotive	Automotive Cyber Security
6.	Embedded C	Embedded	Software	CICD- VS CODE extensions

7.	Bootloader	Cyber Security	Automotive	Automotive Cyber Security
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Work Experience:

- Working at Tata Technologies as an Engineer in Hyderabad(2023-2024).
- Previously worked at L&T Technology Services (2021-2023).
- Total experience- 3.6 years.

Project 1: CICD- Continental

Description:

Development of tools using software integration. Developed extensions for visual studio code for front end development using VS Code and continuous integration on how the extensions worked. Used tools for testing in front end.

Role & Responsibilities:

- Understanding of the requirements specification
- Preparation of the design document for testing
- Simulation of the design in the VS Code
- Knowledge on JavaScript, HTML.

Project 2: MG Motors TSP

Description:

The cloud version the ECU on how it works. If the ECU is hacked how it can be protected when using public network or private network. Cloud API VAPT using the tool like ubuntu for testing and analysis using WP29 and ISO21434.

Role & Responsibilities:

- Understanding of Customer requirements.
- Development of cloud interface for safeguarding the ECU.
- Worked on WP29 in accordance with the ISO21434 rules.
- Unit testing of the implemented software functionalities.

Project 3: CYBERSECURITY- VOLVO

Description:

In this project we safeguard the ECU from the threats and risks using TARA analysis. Also check the vulnerabilities using Medini Tool. Documenting all these risk and impact scenarios, assessing the risk for the upcoming possible threats.

Role & Responsibilities:

- Knowing the requirements and needs.
 - Developing the document for TARA and VARA
 - Testing of the implemented software using Medini.
- Supported project with Nissan for Marelli project for cybersecurity with TARA and HARA analysis using ISO21434 and ISO43229 rules.

Project 4: CYBERSECURITY- MARELLI

Description:

In this project we safeguard the combi-meter from the threats and risks using TARA analysis. Also check the vulnerabilities. Documenting all these risk and impact scenarios, assessing the risk for the upcoming possible threats.

Role & Responsibilities:

- Knowing the requirements and needs.
- Developing the document for TARA and Vulnerability analysis.
- Functional and Technical specifications(FCC&TCC) for the given combi-meter.

Project 5: CYBERSECURITY- CUMMINS

Description:

In this project we safeguard the engine ECU from the threats and risks using TARA analysis. Also check the vulnerabilities. Documenting all these risk and impact scenarios, assessing the risk for the upcoming possible threats.

Role & Responsibilities:

- Knowing the requirements and needs.
- Developing the document for TARA and Vulnerability analysis.
- Developing functional safety features

Educational Details:

Degree	Name of the Institution	Examination Board	Percentage (%)	Year Of Passing
B. Tech (EEE)	Vignan's Institute of Information and Technology (VIIT)	JNTUK	75	2018
Intermediate	Narayana Junior College	Board Of Intermediate Education (A.P)	89	2014
Xth STD	Delhi Public School (DPS)	Central Board Of Secondary Education (CBSE)	82	2011

Personal Details:

- D.O. B : 3 January, 1996.
- Languages known : English, Hindi and Telugu.
- Postal Address : D/O CH.V. Somayajulu, Flat.No-214/B-Block Abhiram blue heavens apartments, gallavanipalem, aganmpudi, Visakhapatnam, Andhra Pradesh-530046.

Declaration:

I hereby declare that the above mentioned details are true to the best of my knowledge.

Date:

Place: Visakhapatnam