Hamza Ben Hassen

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Education

◇ **Technical University of Dresden** *(10.2014 - 11.2020) Dresden, DE*
Dipl.-Ing. , Electrical Engineering (Final Thesis : 2.0 Average: 2.6)
Specialization: *Automation, Measurement and Control Technology*
Optional Courses: *Speech Synthesis and Recognition, VLSI Processors Design, Systems Design, HMI Engineering*
Final Thesis: *Development of a wireless intraoral device for tongue position tracking*

◇ **Philips Universität Marburg** *(2013 - 2014) Marburg, DE*
German language examination for university entrance (Written : DSH2 Spoken: DSH3)

◇ **Institut préparatoire aux études d'ingénieurs de Tunis** *(2012 - 2013) Tunis, TN*
Preparatory year for engineering studies with emphasis on mathematics and physics
Relevant courses: *Algebra , Analysis , Electric and Magnetic Fields*

◇ **Lycée Pilote de Sousse** *(2012) Sousse, TN*
Baccalauréat en Mathématiques: *17.75/20*

Work experience

◇ **Test and Development Engineer**, intech GmbH., *(06.2021 - Present) Wolfsburg, DE*
Development and maintenance of test automation solutions in the Field Automotive Diagnosis and Security for VW

Used technologies : *Automotive Ethernet, CAN, CANoe, ECU-Test, Python, Controldesk , Jenkins, Bitbucket, Jira*

◇ **Testautomation Werkstudent**, Preh Car Connect, *(01.2018 - 03.2020) Dresden, DE*
Development and maintenance of test automation solutions in automotive speech recognition and synthesis for VW

- Created a an Automation Workflow for Speech Dialog System (SDS) Evaluation in All Supported Languages
- Tested, debugged, and expanded internal development tools
- Created useful automation scripts that greatly improved productivity of the Team

Used technologies : *C# ,VBA, Python, Automotive Ethernet, CAN*

Projects

◇ **Chair of Speech Technology and Cognitive Systems** *Dresden, DE*
Thesis: Development of a wireless intraoral device for realtime tongue position tracking

- Surveyed state of the art Body area networks and miniature wireless solutions
- Designed and implemented a wireless development prototype for real time data collection : Part selection, PCB Design, Assembly and Testing
- Wrote firmware in C for nrf52 SoC for sensor polling and quality metrics collection
- Evaluated wireless performance using Antenna radiation pattern and effective throughput and lantency measurements
- Developed software for real time gesture recognition , wireless quality evaluation and an evaluation HMI optimized for tongue movement

Used technologies : C , Python, Altium Designer, Bluetooth Low Energy, nrf52, I2C

◇ **Chair of Highly-Parallel VLSI Systems and Neuro-Microelectronics** *Dresden, DE*
VLSI Processor Design Group Project : Designed a functional RISC-V Processor in a team of four

- Designed , implemented and tested an Instruction Decoder and an External Bus Controller
- Wrote scripts to automate the testing of the complete Processor Core

Used technologies: Verilog, C, Assembly

◇ **Chair of Process Control Systems** *Dresden, DE*
Human Machine Technology Group Project : Developed a Virtual Reality Application used to Simulate Complex Industrial Plants and Provide Guided Training in a team of four

- Programmed User Interface and App Logic
- Tested and Evaluated completed Implementation

Used technologies: Unity3D, C#, Google VR SDK

Skills

◇ Languages: *Fluent spoken/written English, French, German, and Arabic*

◇ Programming: *C, Python, C#, VBA, Javascript, LaTeX, Java, Verilog, Assembly ARM/x86, Webassembly, Pascal*

◇ Applications: *MatLab, LabVIEW, Cadence, Altium Designer, GIT, SVN, Jenkins, Unity3D, Unreal Engine, Adobe After Effects, Blender*

◇ Operating Systems: *Linux, Windows 3.1 -11, RTOS, Wear OS, Android, Symbian*

◇ Lab Skills: *Digital/Analog Scopes, Spectrum Analyzer, Function Generators , Soldering*

◇ Miscellaneous:

- Excellent troubleshooting and debugging skills
- Exceptional development speed using AI Pair Programming
- Ability to quickly understand complex systems and processes

Interests

◇ Academic : *Brain Computer Interfaces, Machine Learning, Human Machine Interfaces*

◇ Technological : *IoT, Wearables, RF/wireless, Webassembly, Biosensors, Smart Assistance*

◇ Miscellaneous: *Playing Piano and Football, Swimming, Biking, Table Tennis*