DYAB ASDI

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EDUCATION

The University of Texas at Austin — Expected, Aug 2025
BS, Mechanical Engineering
Computer Science Minor
Relevant Coursework: Data Structures and Algorithms, Data Science for Engineers, Engineering Computation Methods, Dynamic Systems and Controls, Mechatronics, Engineering Statistics, Autonomous Cars

WORK EXPERIENCE

Tesla – *Software Engineering Intern, Chassis Controls;* Palo Alto, CA — Aug 2024 – Present

- Establishing safe operating regions for full self-driving features to ensure and maximize vehicle stability in various environmental scenarios, generating precise metrics for autopilot stakeholders to implement through dynamic python simulations
- Developing Pytests to simulate driving scenarios, chassis dynamics, and fault injection, enabling thorough validation of drive inverter and brake ECU features such as ABS, stability control, traction control, and state machine logic to adhere to ISO-26262
- Creating an automated development process that takes vehicle logs containing dynamic maneuvers and vehicle parameters and outputs braking performance metrics, resulting in fast optimization and tuning of control algorithms
- Validating the performance of brake control and actuation strategies on new vehicle platforms and ECUs through HIL tests

Tuner Tech, LLC – *Founder;* Southlake, TX — Feb 2021 – Present

- Established an LLC with a focus on modernizing older vehicles through products for the seamless integration of new technology
- Engineered multiple successful products conducting product research, design, testing, manufacturing, and sales of over $20,000

Tesla – *Vehicle Test Engineering Intern, Hardware Test Engineering;* Fremont, CA — Jan 2024 – June 2024

- Developed and implemented multiple detection algorithms in the firmware to correlate wheel force with vehicle accelerometers for various weight configurations, gaining insights in the customer fleet to validate performance targets for vehicle tests
- Automated test data analysis processes with open loop Python applications to simulate vehicle firmware changes, reducing the total feature development time by over 50%
- Managed vehicle-level durability and reliability tests for the Cybertruck, working with design, manufacturing, and test engineering stakeholders to iterate and implement long-term solutions, resulting in a 20% improvement in test performance
- Performed at-limit vehicle testing at multiple proving grounds around the country, instrumenting vehicles with custom DAQ configurations to gain precise insights into the vehicle's performance and validate design choices
- Established new test procedures for future platform performance characterization and to address customer fleet concerns

PERSONAL PROJECTS

Vehicle Control System, BMW E36 M3 – *Personal Project Car* – github.com/dyabasdi/BMW-E36-Control-Systems

- Developing an all-in-one system to control engine and chassis functions and display parameters with an Arduino and Raspberry Pi

B58 Coil Pack Adapter Kit, Tuner Tech LLC – *Product Development* – dyabasdi.com/?page_id=157

- Created the first-ever M/S5X engine to B58 Coil Pack Adapter kit, improving ignition efficiency by over 50% and reducing misfires

LEADERSHIP EXPERIENCE

Formula SAE - Longhorn Racing – Heat and Fluids Lead/Powertrain Engineer; Austin, TX — Aug 2021 – May 2023

- Managed team of 5 automotive engineers from ideation to testing, ensuring adequate oiling, fueling, and cooling for our engine
- Developed a dry-sump system with custom helical deaeration as a countermeasure to oil starvation issues during hard cornering

iCode Southlake – *Software Engineer and Technical Lead*; Southlake, TX — Aug 2018 – Aug 2021

- Led analysis on 5000-family database using Python to create data-driven marketing campaigns, increasing conversion rate by 19%
- Instructed K-12 students in essential programming and soft skills including Object-Oriented Programming using Agile methodology

ADDITIONAL INFORMATION

Technical Skills: Python (Pandas, NumPy/SciPy, Scikit Learn, Matplotlib, PyTest), C/C++ (working knowledge), Matlab, ECUs, Git, Performance Driving, Sensor Integration and Calibration, Data Acquisition, Dewesoft DAQ, Vector CANape, Vehicle Systems, Jenkins
Soft Skills: Project Management (Jira), Agile, Adaptable, Creative Problem-Solving, Team Leadership, Detail-Oriented, Result-Driven
Certifications: AWS Certified Cloud Practitioner (CLF-C02), Dell Information Storage and Management Foundations 2023, OSHA
Awards: Eagle Scout (BSA); Order of the Arrow (Arapaho Chapter); State Champions (Texas Amateur Hockey Association) – 2018-19; VEX Robotics Worlds; VEX Robotics State Design Award– 2020; Formula SAE International, 10th Place– 2022
Interests: Software Engineering, Automotive Engineering, Test Engineering, Performance Driving/Racing