

Chase Bierbach

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Physics undergraduate seeking engineering internships in testing and instrumentation. Combines measurement, physical reasoning, and hands-on troubleshooting to trace observed behavior to its cause.

EDUCATION

Stetson University B.S. in Physics, Minor in Mathematics	Expected December 2027
GPA 3.7 Stetson Presidential Scholarship	
Relevant study Mathematical methods, modeling, differential equations, electricity and magnetism	
Study abroad Communication program, Innsbruck, Austria	Summer 2024

SELECTED TECHNICAL PROJECTS

2005 Chevrolet Silverado 4.8 L V8 Rebuild and Diagnostics	2026
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Independent project

- Rebuilt the engine from teardown through first start and road test; measured bearing clearances, set piston ring gaps for thermal expansion under future boost, and installed valvetrain, oil pump, and head stud upgrades.
- Built a pre-start oil gallery priming setup to test the lubrication system; measured approximately 30 psi and verified oil delivery at the rocker arms before ignition.
- Investigated lean idle and misfire using wideband air-fuel readings, MAP/MAF data, fuel trims, and fault codes; separately diagnosed a fuel pump failure and verified approximately 60 psi at the rail after replacement.
- Bench-read a spare powertrain control module using an OBDX Pro VX interface and PCM Hammer, validating a bench harness and data-access procedure.

Additional Automotive Systems Work

Independent projects

- Used BMW INPA diagnostic software to investigate ABS/DSC and diesel fuel-system faults on a BMW 335d while completing suspension and transmission service.
- Replaced a BMW 530i transmission and clutch; recovered a partially disassembled Ford Fusion installation by correcting torque converter alignment and engine support.

WORK EXPERIENCE

Publix Super Markets Customer Service and Front End Coordinator	June 2021 – June 2024
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Fort Pierce, FL

- Coordinated front-end tasks with coworkers during busy shifts and addressed customer concerns while maintaining service standards.
- Balanced register accuracy and security procedures with changing customer demands.

TECHNICAL SKILLS

Measurement and diagnostics Micrometers, calipers, dial indicators, torque wrenches, multimeter, oscilloscope

Software and data Python (NumPy, pandas, Matplotlib), LabVIEW, Mathematica, Excel, Git

Mechanical and controls Engine assembly, sensor interpretation, wideband oxygen measurement, OBD-II engine diagnostics