Trevor J. Register

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Software Engineer, Customer Systems | EdTech Specialist | Physics Educator

Full-stack engineer working at the intersection of SaaS product development, customer systems, and education technology. Builds internal tools, improves data and integration systems, and develops workflows that reduce support burden and improve user experience at scale. Background in physics education, curriculum design, and large-scale assessment scoring.

Experience

Pivot Interactives/Discovery Education **Software Engineer** **August 2020 – April 2026**

My role was multi-faceted encompassing engineering, providing technical support, and authoring physics curriculum materials.

Software Engineering and Customer Experience – MongoDB/Node/Express/Vue - Typescript

- Set up AI-assisted code review via GitHub Actions and Claude, posting inline comments on PRs.
- Established a structured rules and skills system for AI-assisted development, with codified patterns for event-driven architecture, integration tests, and e2e tests
- Built the Playwright e2e testing framework from the ground up by creating the shared page object library and fixture system used by all e2e tests. Authored 290 of 304 e2e tests.
- Refactored data handling and UI logic for third-party rostering integrations, resolving issues with duplicated and inflated usage data and reducing related support volume
- Built internal tools and workflows to support Tier 1–3 technical support operations across 2,000 school districts, 11,000 teachers, and 750,000 students
- Contributed to an Agile development environment using Jira, Git-based version control, peer code reviews, and CI/CD pipelines
- Maintained a help center of 172 articles (111 authored), supporting ~40,000 annual views and reducing repetitive support inquiries
- Drove operational performance across 60,000+ support requests over 5 years, maintaining 90%+ CSAT, sub-2-minute first response time, and ~30-minute mean time to resolution

Curriculum Author

Authored 47 activities covering all topics within an introductory physics course and with difficulties appropriate from high school conceptual to calculus-based college courses. Here are two examples that you can click to view:

- Position vs Time Motion Graphs
- Constant Acceleration

North Springs Charter High School **Physics Teacher** **August 2018 – August 2020**

River Ridge High School **Physics Teacher** **August 2013 – August 2018**

- Designed and implemented full-year curricula for AP Physics 1, AP Physics C (Mechanics & E&M), and College Prep Physics aligned to College Board frameworks and science standards
- Developed inquiry-based instructional units, labs, and assessments that guided students in building conceptual and mathematical models through scientific discourse and evidence-based argumentation
- Created and iterated on formative and summative assessments to measure student understanding and inform instruction
- Maintained 77% and 90% pass rates for AP Physics 1 and AP Physics C exams, respectively.

College Board/Educational Testing Service **AP Physics 1 Reader** **June 2018 – June 2020**

- Evaluated and scored over 20,000 AP Physics 1 free-response questions in alignment with standardized College Board rubrics
- Applied consistent scoring criteria to ensure reliability and validity across large-scale assessments

Education

Kennesaw State University | Kennesaw, GA | Master of Arts in Teaching Physics | December 2013

Georgia Institute of Technology | Atlanta, GA | Bachelor of Science in Physics | December 2009

Publications

Replacing Textbook Problems with Lab Experiences – October 2017, *The Physics Teacher*.

Aiding Student Understanding of Applying Kirchoff's Voltage Law – July 2015, *Physics Education Research Conference*