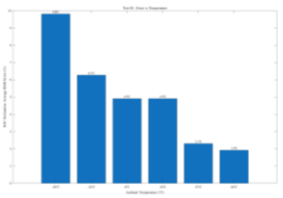
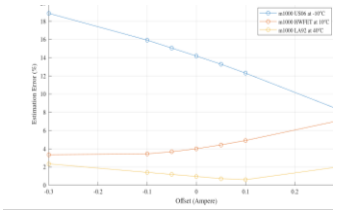
SOCALGOTestingPlatform

What Is SOC?

- Battery State of Charge (SOC) is a measure of the available energy in a battery compared to its total capacity.
- Expressed as a % of the battery's total usable capacity.
- Is not directly measured, rather various algorithms make use of battery voltage, current, internal resistance, and temperature, to provide an estimate.

SOC Graphs

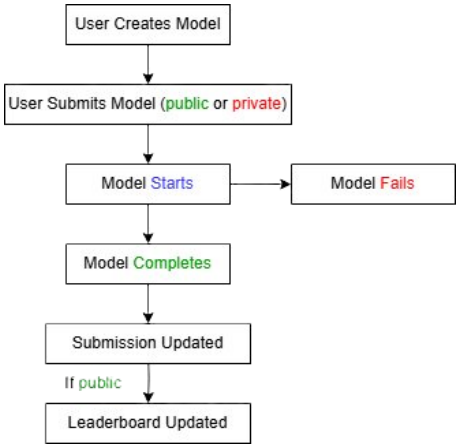




Problem

- A standardized testing suite was developed by Dr. Phillip Kollmeyer to compare different battery SOC methods.
- The suite produces various statistics and charts, allowing for SOC estimation methods to be compared.
- The testing suite was difficult to use, involved submitting a google form and waiting for an email with results.

Use Case



Usability

Detailed landing page

Descriptive User Guides

Features

Sort/Filter Leaderboard

Output File Download

Submissions Running in Parallel

Hosting Cost

Users	VM (cores + gb of ram)	VM (cores + gb of ram)	Redis (cores + gb of ram)	Postgre SQL (GB)	Objects (GB)	AWS Cost (per year)	Hetzner Cost (per month)
150	2+2	9+9	2+8	0.09125	19.16	1291.20	1469.28
1500	2+2	27+27	2+8	6.57	1343	2487.48	3415.68
5000	2+2	45+45	2+8	21.9	4599	4224.72	5023.68

Technology

django · Celery · docker · PostgreSQL · MATLAB

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