Thorsen **Kristufek**

Contact

@ **tkael.1230@gmail.com**
📞 **+1 214 620 4252**
✉ **Austin, TX**

Baseball Accomplishments (links)

- **Baseball Factory profile**
- **Perfect Game profile**
- **World Record HR attempt**
- **State Farm Scholar Athlete (YouTube)**
- **3x Academic All-District (Caltech Athletics)**

Experience

Forward Deployed Engineer at **2025.07.21–2025.10.28**
Gecko Robotics + AI (NYC, NY)
◇ Customer-focused engineering for O&G/industrial clients; built production-grade apps/services.
◇ Processed & visualised LiDAR & NDT data for customer tools (e.g., USS, HF Sinclair).
◇ Implemented B2B service infrastructure for time-series/sensor data providers.

Software Engineer / Data Science at *Virtuous AI (Remote)* **2024.09–2024.12**
◇ Feature engineering and data pipelines; modernised ML workflows.

SURF Research Fellow at *NASA JPL (Pasadena, CA)* **2024.06–2024.08**
◇ Statistical analysis of AQMD data; investigated first/second-order relationships between NH_3/NO_x and PM2.5.
◇ Mentors: Sina Hasheminassab, Olga Kalashnikova.

BI / Software Engineer Intern at *Graham Partners (ABX Packaging) (Remote)* **2023.06–2023.09**
◇ Built price-quoting API and Flask UI for rapid sales estimates across a plant.

Operator & Ranch Hand at *Keeton Beef / Keeton Ranch (Tulip, TX / McKinney, TX)* **2016.03–Present**
◇ Helped start and operate a retail beef business; primary supplier at McKinney Farmers Market.
◇ Website/online sales; crop management and sustainable ranching operations.

Education

B.S. in Computer Science & Applied & Computational Mathematics at *California Institute of Technology* **2021.09–2025.06**
◇ GPA: 4.0.

McKinney High School at *McKinney, TX* **2018.08–2021.05**
◇ Valedictorian #1/678; National AP Scholar / AP Scholar w/ Distinction.

Projects

RanchOS — Incoming (iOS + Go backend) at *Keeton Cattle (internal)* **ongoing**
◇ Comprehensive farm/ranch management platform: herd records, grazing/fields, inventory, tasks, analytics with offline-first sync.

Spatial Prediction of Bird Re-encounter (RNNs + Region Graphs) at *Caltech Meeting of the Minds* **2025.06**
◇ RNN sequence model over region-graph transitions to predict re-encounter locations; ongoing paper/demo.

Marketplace Scraper (Python/Selenium/Flask) at *Independent* **2023.07**
◇ Keyword watcher for Facebook/Amazon; email alerts on local matches; compares to recently sold comps via lightweight Flask UI.

Covid & NCAA Baseball: Entering a New Era? (BEM 120) at *Course Project* **2023 Spring–Summer**
◇ Analysed ~200 Cape Cod League games (TrackMan) to test pre- vs post-COVID shifts; tests on fastball velo, curveball spin/break clustering,

HR distance/EV; found significant changes with caveats.

High-Altitude Home-Run Analysis at *Victor, CO* **2022.08**
"world-record" attempt
◇ Modelled projected distance via Alan Nathan's trajectory framework; site: 9,708 ft elevation, wind, temp, humidity. Result: ~606.5 ft (band ~596–617 ft); explained surveyor-tape understatement.

Awards & Honors (Selected)

- Caltech Baseball (former NCAA player) — Winningest team in program history.
- 2021 Texas HS Coaches Association Elite Academic All-State Team.
- Perfect Game / Under Armour showcase accolades (top throwing/bat speed metrics).
- Headfirst Honor Roll Camp: Top Throwing Velocity (95 mph); Blast Bat Speed (74.9 mph), Dallas, TX.
- Showball Showcase: 1st place Throwing Velocity (94 mph) and Tee Exit Velocity (98 mph), Frisco, TX.
- Only HS player on 2020 TSL Collegiate Wood Bat Summer League roster (BA .353, OB% .429).
- UIL: 1st Place CS Programming (Regional). National Merit Commended Scholar.
- McKinney HS Outstanding Student in Science (2018); MEF Lynn Sperry Scholarship.
- 3x NCAA Academic All-District (Caltech).

Leadership & Service

- Founding Member, Kareem of the Crop (basketball/services)
- Tutoring (Math, Physics, CS); Baseball lessons

Hobbies

Spending time with my son (Donovan Hayes Kristufek), Bassoon, Video Games, Powerlifting (DL 500 lbs; Grip 218 lbs), Outdoors (fishing/hunting), Sabermetrics.