# VALENTIN ASTIÉ

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## Education

**University of California, *Berkeley*** Dec 2024

*Double Major:* B.S. Mechanical Engineering & B.S. Electrical Engineering & Computer Science

GPA: 3.60

Coursework: Heat Transfer, Fluid Mechanics, Computer Architecture, Mechatronics, Rigid Body Dynamics, Control Systems & Feedback, Efficient Algorithms, Mechanics of Materials, IoT, Data Structures, Information Devices and Systems, Manufacturing & Tolerancing, Thermodynamics, Electromagnetism etc.

## Related Experience

**UC Berkeley Research Laboratories** Jan 2024 – April 2024

Undergraduate Researcher, Professor Boris Rubinsky

- 2024 Big IDEAS finalist for UC Berkeley, out of 130 student teams. $5,000 cash prize.
- Lead hardware and software designer of a wrist mounted neuro-responsiveness tracker that tests patients motor, memory, and reaction skills against a standard benchmark.
- TinyML model interprets and sends data (gesture movement, reaction time, etc.) over Bluetooth server.
- Co-conducted initial testing of the product on 15 patients.

**Apple Inc,** Cupertino, CA May 2021 – May 2022

Product Design Intern, Special Projects Group

- Owned and designed assembly of a custom hydraulic torque-tester. Built from scratch, measures high torques with <1% error margins (3 months)
- Validated tester using a Gage R&R analysis on custom bar samples with 3 independent operators. (1 month)
- Led a design of experiments on a proprietary fastening method, identifying important parameters (3 months)
- Designed (+100 parts) mechatronics prototype in NX, for use in next generation hardware. (4 months)
- Designed fatigue testing rig for a patented part. Tests the life cycle of 25 units simultaneously. (1 month)
- Wrote testing procedures and assembly instructions for all above systems, for use by other engineers.

**Berkeley Formula Electric Club,** Berkeley, CA Jan 2020 – Jan 2021

Founding Member, Brake Systems Co-lead, Chassis Team

- Lead designer of a brake rotor. Tested thermal and structural FEA in Solidworks.
- Designed to handle 10,000+ W of heat input over 30 braking cycles, temps >300°C.
- Created half-car suspension models in SIMULINK (spring-damper model, second-order system).
- Experience with chassis dynamics, thermodynamics, weight transfer, and hydraulic calculations.

## Personal Projects

***2DREAM*** January 2023 – May 2023

*Mini warehouse bots for shipping and logistics.*

- Designed 3D printed warehouse bots that can drive independently or latch together to move heavy items.
- Fully 3D printed, economical design. All in, each bot costs $40 and is controlled via Bluetooth.
- Custom lead-screw elevator lifts 0.5kg of cargo at 2.5cm/s.

***Prograde.gg*** Dec 2021 – Jan 2022

A*nalyze professional e-sports games in real-time.*

- Uses a random-forest model with 32 input parameters to analyze game replays in real time.
- Optimized with variable mesh models and back-end C libraries (NumPy, Pandas) to run in < 30 seconds.
- Web interface used by casters and leased to the Collegiate Carball Association for $1500 in 2022.

**StockPot** Jan 2021 – Feb 2022

*IoT device that uses AI to trade stocks and other financial assets daily.*

- WIFI connected. Texts the portfolio owner daily with an investment summary.
- Uses a random forest algorithm to pick 4-5 stocks daily - trades every morning at market open.

## Skills

***Engineering:*** *Autodesk Suite, Solidworks, MATLAB, Siemens NX, Basic ANSYS, LabView, G Suite, Microsoft Suite*

***Computer Science:*** *Java, Python, C and SIMD, RISC-V Assembly, Intermediate Control Systems Experience, Efficient Algorithms, SQL, Logisim, CPU and Cache Design*

***Languages:*** *Fluent in English, French, and Spanish*

***Dual Citizenship:*** *United States, France*

***Hobbies:*** Skiing, mountain biking, surfing, and chess. D1 Esports competitor for UC Berkeley Rocket League.