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# Brent Lee

I'm a high school junior. Wait! Bear with me for the next 30 seconds.  
I am looking for an unpaid internship for Summer 2023. I am interested in all things tech. For a few highlights, please take a look at my machine learning and embedded system projects on the next page.

I'm currently dual enrolled in both the International Baccalaureate (IB) and Valencia Technology (Val-Tech) program at Valencia High School (VHS). I am a part of the E-Sports, CyberPatriot, Robotics, and Science Olympiad clubs at Valencia.

I am the president of the VHS E-Sports Club. I am very interested in Computer Science. One thing I really enjoy is designing cool stuff and making them a reality; it turns out that many projects like that involve CS.

I use Python mostly. Python has the most amount of and most useful libraries for the projects I get involved with. This is case for machine learning (ML) and artificial intelligence (AI); this is true for cyber security projects such as automating computer security during CyberPatriot competitions. In particular, Python within Jupyter Notebook is great. The combination lets me try ideas quickly. This is especially true for the ML and machine vision undertakings.

I game on a Windows PC for compatibility purposes, but the projects are done on an old Dell Xeon workstation running Ubuntu Linux. I bought this used on eBay. It's maxed out in memory, but due to the lack of a GPU, training an ML model is horrendously slow. Fortunately, because of the recent prices crash, I was able to buy a new NVIDIA graphics card. I'm looking forward to the boost in processing power that it provides.

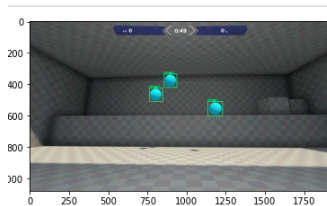
I have experience with JavaScript and Java as well. Java is a part of the CS advance placement (AP) class and IB CS curriculum, so it is unavoidable in any case.

I also have some experience with CAD software and 3D modeling. I learned quite a decent amount about SolidWorks from being on my school's robotics team and the mechatronics courses at my school. Knowing

how to design parts was extremely helpful when designing my mechanical keyboard and a Bluetooth add-on for my HiFi wired headphones.

I have done some embedded system design. This was for my keyboard project: from schematics capture and PCB layout with KiCad, through firmware in C for an Arduino SBC, to integration and test with the host PC. I'm typing this now on the keyboard I built. Oh, in case you're wondering, a gaming keyboard is nothing compared to a high refresh rate monitor. You really can see the difference.

### AimBot

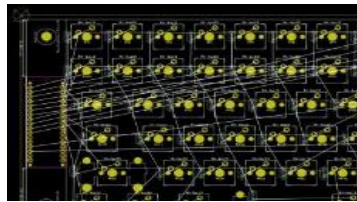


Using computer vision and machine learning to make an accurate and extremely fast aiming robot.

Detail and source:

<https://github.com/overlordpro-sys/cv2-aimbot>

### Gaming Keyboard



From concept, through design to manufacture my ideal mechanical keyboard.

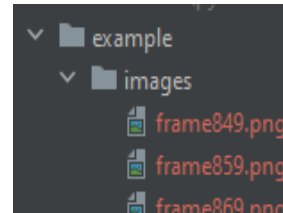
YouTube:

<https://youtu.be/BKlyYGOT2mQ>

Detail and source:

<https://github.com/overlordpro-sys/keycool84keyboard>

### AutoAnnotate



Python script to speed up the process of ML data annotation. Using a pretrained object detection model, the script automatically generates an xml file with the inferred bounding boxes for model training.

Detail and source:

<https://github.com/overlordpro-sys/tfod-auto-annotate>

## Education

Valencia High School

- 4.7 Weighted, 4.0 Un-weighted GPA
- International Baccalaureate (IB) and ValTech Diploma (technology focused) student
- IB courses in Computer Science, Math, and Physics

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## Extra Curriculars and Clubs

CyberPatriot – STEM program of the Air & Space Forces Association

- Consistent semi-finalist and platinum rank in CyberPatriot annual competition
- SoCal Cyber Cup cybersecurity competition finalist team

Valencia E-Sports Club

- Club President
- Planned and ran a successful tournament for club members
- Robotics Team 4470
  - Contributed to the building and programming of a robot with an articulated arm for the First Robotics Competition 2023

Science Olympiad

- Member of the 2023 Science Olympiad team

Coding For Future Non-Profit Organization Co-Founder

- Founding goal: provide resources, teaching, and tutoring to low-income students for free
- Project manager

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## Service and Volunteering

Yorba Linda Library

- Sign-up booth manager for summer reading program

Speech and Debate for Kids Non-profit Organization

- Re-designed and refined organization's website
- Worked with WordPress, HTML, CSS

East Lake Village Community Association

- Managed food and attraction booths
- Summer and Winter family events

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## Awards and Merits

- Valencia High Distinguished Scholar 2020-2022 (3.8+ cumulative GPA)
- Valencia High Honor Roll 2020-2022
- California Scholarship Federation Membership
- Val-Tech Diploma and IB Diploma Candidate
- UCLA Valorant Westwood Showdown Tournament Team MVP

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## Skills

- Proficient in Python and Java
- Knowledgeable about HTML, CSS, JavaScript, and Bootstrap
- Versed in 3D CAD and PCB design
- Experience with computer vision and machine learning
- Leadership and communication
- Comfortable working in a team environment
- Flexible and efficient with time management