

## i0lab1 by OneManArmy

### Roster: Samuel Jiang

L1: On Wednesdays We Wear Pink

Intro CS PD 5

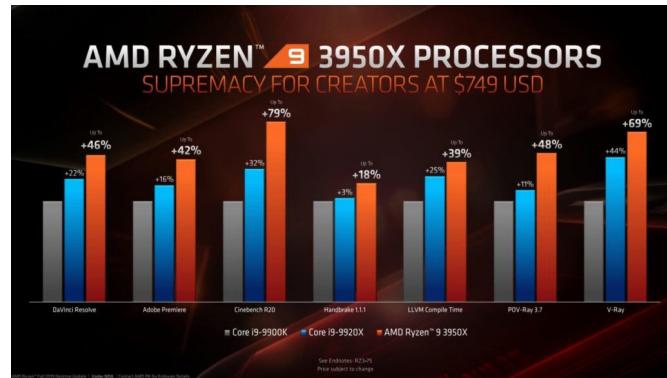
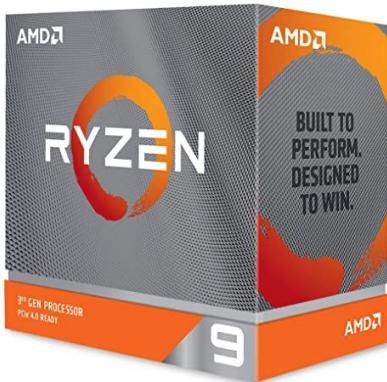
2020-04-21

### Build 01: AutoCad Monster

Pitch:

Insane value that has been thought out.

This build has a 2080 Super paired with the Ryzen 9 3950X. These two combined will give a top performing computer. They can run most applications with over 60fps and having highs of 600-800fps.(FPS is frames per second) With a powerful CPU in mind, I had to make sure it doesn't overheat when it is running a lot of things at once. This is why I chose to use the Corsair H100i all in one liquid cooler. This cooler will make sure the temperatures of the 3950X will stay at a reasonable amount and not overheat when I do something like a stress test of a rendering job. I went with 32gb of ram to ensure I have enough ram when I render. I specifically chose 4 sticks of 8gb ram instead of 2 sticks of 16gb so I can use the benefits of quad channel ram instead of just dual channel. The motherboard I chose is the X570 from Gigabyte which has 4 slots for ram. The monitor I chose was one from MSI which is a trusted brand to make quality monitors and computer parts. I chose a 144hz monitor to show off the capabilities of the GPU.(Hertz is the refresh rate of the monitor or the amount of time your monitor refreshes per second.) Getting a 240hz monitor or anything higher than a 144hz is not necessary for my needs. I went with the Lian Li case because it has really good air flow and a tempered glass panel. It also supported my ATX motherboard which was the main reason why I chose the case. The PSU(power supply) I chose was a 850watt 80+ Gold Certified PSU. Our system does not need the full 850watt but it is always good to have extra power so your system doesn't run under the minimal requirements. If your PSU is running your CPU and GPU using all of its watts, then it would deteriorate quickly over time and it is very unsafe because your PSU will overheat and unwanted things can happen. I chose a 1TB NVME SSD from Samsung's Evo lineup. The Evo series is one of the best amongst the Solid State Drive industry and it would fit this build perfectly. The mouse and keyboard I went with are two of the best for their price range and it has all the essentials that I need and more. Most importantly though, in order to run this system, there is Windows 10 for all AUTOCAD needs.



### AMD Ryzen 9 3950X 16-core, 32-Thread

\$740

The AMD Ryzen 9 3950x features 16 cores at 32 threads alongside AMD's new Ryzen technology which takes advantage of a process named "infinity fabric". The more cores and more threads helps the computer run various tasks with more efficiency.



Gigabyte X570 AORUS Elite (AMD Ryzen 3000/X570/ATX/PCIe4.0/DDR4/USB3.1/Realtek ALC1200/Front USB Type-C/RGB Fusion 2.0/M.2 Thermal Guard/Gaming Motherboard)  
\$200

The motherboard features good support for Ryzen's auto overclocker. It features a heatsink for an M.2 NVME SSD and USB-C for future proofing.



| New G.SKILL Trident Z Neo Series Specifications<br>for AMD Ryzen 3000 CPUs & AMD X570 Motherboards |             |         |                                 |
|--|-------------|---------|---------------------------------|
| Frequency  | CL Timing   | Voltage | Kit Capacity                    |
| 2666   | 18-18-18-38 | 1.20V   | 8GBx2 / 8GBx4 / 16GBx2 / 16GBx4 |
| 3000   | 16-18-18-38 | 1.35V   | 8GBx2 / 8GBx4 / 16GBx2 / 16GBx4 |
| 3200   | 14-14-14-34 | 1.35V   | 8GBx2 / 8GBx4 / 16GBx2 / 16GBx4 |
|  | 16-18-18-38 | 1.35V   | 8GBx2 / 8GBx4 / 16GBx2 / 16GBx4 |
| 3600   | 14-15-15-35 | 1.40V   | 8GBx2 / 8GBx4                   |
|  | 16-16-16-36 | 1.35V   | 8GBx2 / 8GBx4 / 16GBx2 / 16GBx4 |
|  | 16-19-19-39 | 1.35V   | 8GBx2 / 8GBx4 / 16GBx2 / 16GBx4 |
|  | 18-18-18-38 | 1.20V   | 8GBx2 / 8GBx4                   |
|  | 18-22-22-42 | 1.35V   | 8GBx2 / 8GBx4 / 16GBx2 / 16GBx4 |

G.Skill Trident Z Neo Series 16GB (2 x 8GB) 288-Pin RGB PC4-28800 DDR4 3600MHz 2x

\$240

The Trident Z Neo series RAM is useful for this build because it has 16 gigabytes of ram and that is plentiful for the purpose of this build. Since we will be buying 2 sets of 2x8GB of ram, we can use the benefits of quad channel. The Trident Z Neo has a very high ram speed, 3600mhz. AMD's infinity fabric relies heavily on the ram speed so having a higher clocked speed essentially means a stronger CPU. Free performance!



\$160

Corsair H100i RGB PLATINUM AIO Liquid CPU Cooler, 240mm, Dual ML120 PRO RGB PWM Fans, Intel 115x/2066, AMD AM4/TR4

Corsair's H100i is an AIO (All in One) liquid cooler. It can maintain the CPU at a low temperature so it can be overclocked to a higher mhz while not overheating.



## RMx Series™ RM850x — 850 Watt 80 PLUS® Gold Certified Fully Modular PSU

\$145

Corsair's RM 850x is a reliable power supply that has 850 watts, more than enough for most computer builds. It is a modular system so the cables are not hard wired to the PSU, they are removable. The gold rating means a higher rate of efficiency of conversion of electricity.



| Part Number  | 08G-P4-2287-KR  | 08G-P4-2082-KR  | 08G-P4-2182-KR  | 08G-P4-2183-KR  |
|--|---|---|---|---|
| <b>Price</b>   | \$499.99  | \$749.99  | \$799.99  | \$499.99  |
| <b>Product</b>   |   |   |   |   |
| Corsair GeForce RTX 2080 FTW3 ULTRA GAMING, 08G-P4-2287-BLACK EDITION GAMING, 08G-P4-2082-BLACK EDITION GAMING, 08G-P4-2182-XL RGB LED | EVGA GeForce RTX 2080 XC GAMING, 08G-P4-2182-XL RGB LED                                   | EVGA GeForce RTX 2080 XC GAMING, 08G-P4-2182-XL RGB LED                                   | EVGA GeForce RTX 2080 XC GAMING, 08G-P4-2183-XL RGB LED                                   | EVGA GeForce RTX 2080 XC GAMING, 08G-P4-2183-XL RGB LED                                   |
| <b>Specs</b>   |   |   |   |   |
| Graphics Processing Unit   | NVIDIA RTX 2080   | NVIDIA RTX 2080   | NVIDIA RTX 2080   | NVIDIA RTX 2080   |
| Architecture   | Turing  | Turing  | Turing  | Turing  |
| Interface  | PCI-E 3.0 x16   | PCI-E 3.0 x16   | PCI-E 3.0 x16   | PCI-E 3.0 x16   |
| Base Clock   | N/A   | N/A   | N/A   | N/A   |
| Boost Clock  | TBA   | 1740 MHz  | 1800 MHz  | 1815 MHz  |
| Memory Size (MB)   | 8192  | 8192  | 8192  | 8192  |
| Memory Type  | GDDR6   | GDDR6   | GDDR6   | GDDR6   |
| Memory Interface   | 256-bit   | 256-bit   | 256-bit   | 256-bit   |
| Memory Clock Speed   | 14000 MHz   | 14000 MHz   | 140000 MHz  | 14000 MHz   |
| Texture Fill Rate  | N/A   | N/A   | N/A   | N/A   |
| <b>Features</b>  |   |   |   |   |
| VR Ready   | No  | No  | No  | No  |
| Connectors   | DisplayPort, USB Type-C, DisplayPort, HDMI, DisplayPort, Max Resolution 7680x4320 @ 144Hz | DisplayPort, USB Type-C, DisplayPort, HDMI, DisplayPort, Max Resolution 7680x4320 @ 144Hz | DisplayPort, USB Type-C, DisplayPort, HDMI, DisplayPort, Max Resolution 7680x4320 @ 144Hz | DisplayPort, USB Type-C, DisplayPort, HDMI, DisplayPort, Max Resolution 7680x4320 @ 144Hz |
| Maximum Displays   | 4   | 12  | 12  | 12  |
| DirectX Version Support  | 12  | 12  | 12  | 12  |
| OpenGL Version Support   | Microsoft® DirectX® 12 API, Vulkan API 4/5  |
| Multi-GPU Technology   | NVIDIA 2-Way  | NVIDIA 2-Way  | NVIDIA 2-Way  | NVIDIA 2-Way  |
| BIOS   | 2   | 1   | 1   | 1   |
| <b>Size/Power</b>  |   |   |   |   |
| Card Dimension (Length)  | 11.8in - 301.825mm  | 10.8in - 266.2mm  | 10.8in - 266.2mm  | 10.8in - 266.2mm  |
| Card Dimension (Height)  | 4.54in - 119.3mm  | 4.8in - 114.8mm   | 4.5in - 114.3mm   | 4.8in - 114.3mm   |
| PCI Slot Size  | 270 Slots   | Dual Slot   | Dual Slot   | 275 Slots   |
| Power Consumption  | 210   | 210   | 210   | 210   |
| Recommended PSU  | 650 Watt  | 650 Watt  | 650 Watt  | 650 Watt  |
| Power Connectors   | 8+6-Pin   | 8+6-Pin   | 8+6-Pin   | 8+6-Pin   |

EVGA GeForce RTX 2080 Super XC Gaming, 08G-P4-3182-KR, 8GB GDDR6, RGB LED  
\$750

The RTX 2080 Super is an amazing graphics card that has nvidia's terra cores which are responsible for handling all of the "ray-tracing". This is an important element in computers as it handles shadow representation and accuracy. The graphics card also has 8 GB of GDDR6 VRAM which is more than sufficient for a graphics card and is very helpful as you could run more graphical applications. It also has two fans instead of one which helps with maintaining a good temperature on the GPU.



Lian Li PC-O11DW 011 Dynamic Tempered Glass on The Front Chassis Body SECC ATX Mid Tower

\$150

The LianLi pc case is a modular case that has a lot of cable wiring options all around it. It has a lot of open areas where air can flow in and help with the cooling. This case also has 2 internal 3.5" Bays which means I can fit my SSD in it with ease and still have potential for future upgrades for more storage. The Liam Li also has a removable magnetic filter on top of the case so I can clean the dust regularly.



OS:

Microsoft Windows 10 Pro OEM 64-bit

Price: \$150

The operating system is very important, because it manages the hardware and software of a computer. Operating systems also run special software. Windows 10 offers additional features that don't necessarily concern AutoCad, but if the user intends to use the PC for other work related things windows 10 offers some perks.



\$180

Samsung 970 EVO 1TB M.2-2280 NVME Solid State Drive

Samsung's 970 Evo M.2 SSDs are top performers in the SSD industry. It has 1TB of storage which is more than enough for the purposes of this build. NVME drives are a bit faster than regular SSDs so I chose it because I will be rendering graphics.



MSI Optix G241 23.8" 1920x1080 144 Hz Monitor

\$190

This monitor has great color accuracy and a 144hz refresh rate. It has a 1 millisecond response time so there will be little to no latency. It has a 1080p resolution so the quality will be pretty good although it can't be compared to a 4k monitor.



#### Logitech G203 Prodigy RGB Wired

\$30

This mouse provides two extra side buttons for macros or hotkeys. It also has a DPI button with software that lets you customize your mouse whatever way you want. It has all the essentials of a mouse and will fill its job perfectly.



#### Dierya Mechanical Gaming Keyboard 60% Wired/Wireless LED

\$50

This keyboard is perfect for this pc because it provides all the functions of a keyboard in a compact form (60%). This will be better for small desks and even has the option for Wireless. It is such a good value at only \$50 for this keyboard.

Total Price: \$2945