

Ti Guo (Tianyu)

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Engineering Skills

- Proficient: C, C++, Python, Mac/Linux Terminal
- Familiar: Java, MatLab
- SolidWorks, AutoCAD, Eagle CAD, LabView, CleWin, sketchup, Photoshop

Hardware Skills

- Laser Cutting, CNC, 3D Printing
- PCB Schematic Design, PCB layout design, Soldering
- Arduino, Raspberry Pi, PLC, FPGAs
- UART, I2C, SPI protocols

Additional Skills

- Scrum Model, Lean Model
- Rapid Prototyping
- Investigation with Manufacturers
- OKR Project Planning
- Professional Mandarin Fluency

Employment History

System Design Intern – *Medella Health, Waterloo, ON* – *Invested by Peter Thiel* 2017

- Led the development of a **robotics** system that improved sensor fabrication speed by **10 times**. Used 3d printing, **Python**, **C**, **PCB** design, **Laser** cutting, CleWin, AutoCAD, **SolidWorks**, Microfluidics design
- Created process that saved more than \$6000 & **50%** of average equipment sourcing time
- Created company's **productivity** workshop & organized team huddles. Introduced **Lean** model, applied Scrum & OKR for cross-functional team project development

Co-founder – *Busboy Inc., Waterloo, ON* – *Founder Institute Incubator* 2016-present

- Busboy is a digital coupon product service. Deployed in 2 locations & tested with 300 students
- Developed the **product requirements**, UI & UX specs. Used **JavaScript**, CSS, Html, **NFC** Protocol

Innovation Intern – *Khazanah Americas Incorporated., San Fransisco, CA* 2016

- **Invented** the company 3D logo design, which has been widely **manufactured** as gifts to this day
- Represented company interviewed **70** startups in the Bay area
- Invented "KAIssearch" tool that allows employees to customize search in multiple business databases
- Developed a **Kinect**-based 3D human body **scanner**, & co-developed drawing robot. Applied PCB design, **Raspberry Pi**, Arduino, C, **SSH**, **AHK**, **Linux**, **UART**, **H-Bridge**, stepper motor system

Hardware Developer - *Neurovative Technologies Inc., Waterloo, ON* 2014-2016

- Co-developed company's main product, Vibrant, a wearable therapeutic system. Used **accelerometer**, Bluetooth, circuit **diagnosis**, pressure sensor, tested bio-sensors & **actuators**
- Assisted with the company's Android companion app, using **Java**
- Represented the company in Shenzhen, **China**. Discussing & investigating cooperation opportunities in vibration motors & **PCB** manufacturing with vendors

Junior Software Developer - *Symanta Inc., (Communitech) Waterloo, ON* 2014

- Developed and crowd-tested company's mind-controlled virtual reality gaming system project. Used **Python**, Emotiv EEG headset system

Side Project

Natruwake Pillow

2015-2016

- Managed a cross-functional team of 11 students for 16 months for 4 generation prototypes
- Generated sleep activity graph **more accurate than the most popular sleep tracking app**
- Led market discovery, cost analytics. Used Git **Version control**, PCD **layout** and **Schematic** design, Google cloud, C, **Java**, **I2C**, **SPI**, **UART**, **EEG** sensor circuit, LCD screen, vibration motors, sd card R/W, **H-Bridge**, Arduino **machine learning** library, **band pass filter**, voltage **amplifier**

Bluetooth earpiece wireless charging shell

2016

- Developed the portable wireless charging shell for the Bluetooth earpiece. Applied **circuit design** and PCB manufacturing, AC to DC **charging circuit**
- Conducted market research & customer discovery process for the Startup project

Real Life Angry Birds Gaming Machine

2014-2015

- Led a group of 5 Engineering students designed & build an electrical controlled mechanical robotics system. Applied **joystick** controllers, Arduino, **servo** system, projectile calculation

Concentration Improvement System

2014-2015

- Developed a wristband and a headset that notifies users when they are not concentrating. Applied Arduino, **Bluetooth**, **Java for Android**, **EEG sensor**

Activities

Hardware Executive at First Robotics Team 2702 - Eastwood Collegiate Institute

2014-2015

- Used lathes, drilling machines, table saw, milling machines, **SolidWorks** for designing, prototyping, & building robots

Co-president in Mechanical & Electrical Lead of Robotics - Viking Robotics Team

2013-2015

- Led developed projects to involve **C++**, sensors, motors, Raspberry Pi, machining, circuit design, **OpenCV**

Awards & Achievements

President's Award - University of Waterloo Engineering Faculty

2015

- Awarded for co-founding Hardware Workshop and helping 300+ students get to start with hardware developing (**1 of 6** recipients of the term, one of the youngest recipients in history)

2nd Place Overall - International Autonomous Robot Racing Competition

2015

- Led Waterloo Collegiate Institute Robotics Team won the **2nd place** in the world

Education

Candidate for Bachelor of Applied Science

-Honours Mechatronics Engineering at University of Waterloo

2015 – 2020

Interests

- Reading, Photographing, Rock Climbing, Biking, Chess, Chinese Calligraphy