

ALEXANDER THIEL

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PROFESSIONAL SUMMARY

Engineering Student at ASU Polytechnic seeking internship opportunities working with robotics and virtual reality. College Junior studying Robotics Engineering, with extensive experience in programming, design and development, manufacturing, and digital electronics. Dedicated engineer with excellent communication skills and a proven track record of professional achievement in engineering-focused projects. Fast learner, goal-oriented, self-motivated. *Bilingual in English and Spanish.*

Areas of Expertise

Python, Java, C/C++, C#, Javascript | Object Recognition & Computer Vision | Virtual Reality
Kinematic | Circuit Design & Development | CAD Modeling & Design | Embedded Systems

EDUCATION

Center for Research in Engineering, Science, and Technology **Graduated May 2014** **GPA: 4.0**
CREST is a small, engineering-based specialty high school on the campus of Paradise Valley High School, in Phoenix. CREST is designed for students who are seeking engineering-related careers and offers focused instruction in Engineering, Biotechnology, and Sustainability.

Arizona State University – Robotics Engineering **Anticipated Graduation May 2018** **GPA: 4.0**
Part of the Barrett Honors Collage at the ASU Polytechnic Campus.

EXPERIENCE

Piano Instructor at Stevens Studio of Music, Phoenix, AZ **Winter 2011 – Winter 2014**
• Taught piano lessons. Provided customized instruction, graded papers, and handled lesson payment.

Engineering Intern at NOVO Motor Acoustic Systems, Inc. Detroit, MI **Summer 2013**
• Broad exposure to many different kinds of engineering in the automotive industry.
• Programmed a deep learning algorithm to reduce ratio of good to bad parts in a particular process.
• Learned about concept development, design, manufacturing improvement, and CAE such as CFD and FEA.
• In depth work with process improvement and validation testing.

Product Manager at uFactory, Shenzhen, China **Winter 2015 & Summer 2016 – Present**
• Lead Creator and Product Manager for a Visual Programming Language software called *uArm Creator Studio*.

- Designed for programming robot arms with an emphasis on easy-to-use computer vision.
- Enabled users to program robot arms without prior programming knowledge.
- Wrote over 14,000+ lines of code, using bug testers to maintain a polished final product.
- This software was marketed heavily and released officially by uFactory
- *uArm Creator Studio* Demo Video – <https://youtu.be/BGF50a8rUb4>

• Created a Virtual Reality simulation for uArm Robots

- Used an HTC Vive and Unity3D to simulate uArm robots accurately and aesthetically
- *uArm Virtual Reality* Demo Video - <https://youtu.be/rwCO75ExJUQ>

• Main speaker at four conferences in Shenzhen, speaking of the Maker Movement and engineering education.

Software Intern at Dili Labs, San Francisco Bay Area **Winter 2016**
• Worked with an existing robot to create software for robotic telepresence.
• Created, from scratch, a virtual reality interface for controlling this robot and seeing through it's eyes (cameras)

PROJECTS

Artificial Intelligence Problem Solving

Spring 2013

- Worked in an eight person team to study how humans solve problems compared to two computer algorithms.
- Programmed a Genetic Algorithm and a Neural Network to solve a maze, and designed a program to determine the percent difference between a dataset of human's solutions compared to a dataset of an algorithms solutions.
- <http://teamyro.com/>

Robot Arm Jenga Stacker

Winter 2014 – Spring 2015

- Programmed robot arm to find scattered Jenga blocks on a desk using a webcam, pick them up, and stack them into a neat Jenga tower- automatically.
- Developed a library for controlling a robot arm using a camera, a robot, and a laptop computer.
- <https://www.youtube.com/watch?v=ypxhFyyYt7Q>

Home Automation System

Summer 2015 – Winter 2015

- Worked in a two person team to develop various home automation products, with funding from ASU.
- Designed and finishing a system to activate lightbulbs in a room from the internet for practical purposes such as flashing blue when an email has arrived, to flashing red and white to signal an alarm clock, and more.
- Created a mechanical button-pushing device, that can be accessed from clean, easy to use Android application, to press buttons on appliances, such as a TV or a light switch, using the internet.

Robot Arm Checkers

Fall 2015

- Programmed robot arm to play checkers with a physical checkerboard, against a human opponent.
- Used a camera to recognize the board, stitch images together, identify the game's current state, calculate the best possible next move, and execute it using the robot arm.
- https://www.youtube.com/watch?v=wIeP1g6ww_g

Robot Arm Digital Clock

Fall 2015

- Programmed robot arm to move strips of paper around to form numbers, and keep the current time.
- <https://www.youtube.com/watch?v=AXajx7sKvhA>

uArm Creator Studio

Spring 2016 – Fall 2016

- Explained under Experience
- This started as a project, then development continued under my employment at uFactory.

References

Engineering Field

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Academic Field

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