

PHILIP J. CHEHADE

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WORK

MAGENTA LABS, PALO ALTO, CALIFORNIA. MANUFACTURING AND FIELD ENGINEER. MAR 2016 - AUG 2016

- Reviewed and selected Chinese and Taiwanese contract manufacturers for automated lens assembly.
- Developed and conducted a human centered design program to understand habits of GoPro consumers.

APPLE INC., IPHONE TECHNICAL OPERATIONS, CUPERTINO, CALIFORNIA. PROJECT LEAD & IPHONE ADVANCED MANUFACTURING ENGINEER. FEB 2013 - JUL 2015

- Led teams of contract engineers throughout the design, testing, validation, and production scaling of automated assembly machinery for iPhone 5c, 5s, 6, 6 Plus, and 5Se. Automation project lead for the iPhone 5 Se.
- Tools that I designed are still operating and have built and tested more than 700 million iPhones to date.
- **Design** - Developed assembly processes to automate iPhone manufacturing. Aligned with Apple's iPhone product design team to ensure that their product features were precisely executed on a production line.
- **Validation** - Used data and product quality analysis to assess machine performance. Performed thorough repeatability and accuracy testing on all robotics, vision, and metrology systems.
- **Scaling** - Managed operational and logistical integration with Apple's global supply chain and operations teams to direct the delivery, setup, and mass production qualification of machines (manufacturing operations are replicated in Shanghai, Zhengzhou, Shenzhen, and Brazil).
- **Manufacturing Technology Experience** - Laser Welding, Heat-Staking, Auto-Screwing, Tactility Analysis, 2D Laser Measurement, UV Glue Curing, Camera Metrology, and 3/4/6 Axis Robotics.

EDUCATION

NORTHWESTERN UNIVERSITY, EVANSTON, ILLINOIS - M.S. IN MECHANICAL ENGINEERING, CLASS OF 2017

- **Thesis:** Developing a field texture recording device for haptics designers. Using a phonograph needle to capture high bandwidth vibrometry data.
- **Leadership:** Teaching assistant for the capstone Mechanical Engineering Undergraduate course. Guided, graded, and mentored 65 students on client projects with Boeing, GE Aviation, Northwestern medical teams, and Northwestern advanced rapid prototyping laboratories.
- **Special Projects:** Virtual Reality Motorcycle Simulator, Light Driven Kitchen Timer, DC Motor PID Control, RC Car vision control, and The Chameleon: an Electroadhesive Haptic Display.
- **Coursework:** Design Research, Design Communication, Product Design, Designing Product Interactions, Mechatronics, Haptics, Advanced Mechatronics, Soft Robotics, Metamaterials.

CALIFORNIA POLYTECHNIC STATE UNIVERSITY, SAN LUIS OBISPO, CALIFORNIA B.S. IN INDUSTRIAL TECHNOLOGY, CLASS OF 2012

- **Academic Performance** - Dean's and President's list.
- **Leadership** - Rapid Prototyping Lab Manager, and Founder of machine shop apprenticeship program.

SKILLS

- **Global interaction** - Semi-fluent in Spanish and Arabic. Professional/Cultural experience working on location with equipment manufacturers in Japan, Germany, and China.
- **Hardware** - C coding for mechatronics, circuit board design, general machining, laser cutting, water jet.
- **Software** - MATLAB, JMP, Excel, SolidWorks, Photoshop, Illustrator.

COMMUNITY

THE CORTEX HUB, EAST LONDON, SOUTH AFRICA. VOLUNTEER ADVISOR. SEP 2015 - DEC 2015

Advised entrepreneurs in a technology and socially focused African startup incubator.

GUATECA PROGRAM, SAN PABLO, GUATEMALA. JUN - SEP 2011

Co-led the development of an sustainable water heater by converting exit heat from wood-burning stoves.