JESSICA CLAIRE

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EDUCATION

2017	**Master of Science**: **Materials Science and Engineering**

Stanford University - Stanford, CA
GPA:
GPA: 3.88/4.0
Courses: MSE209(Semiconductor Devices); MSE203(Atomic Arrangement In Solids); MSE303(Li-ion Battery); MSE206(Defects In Crystalline Solids); MSE316(Nanoscale Science and Battery); MSE256(Solar Cells and Fuel Cells)

2015	**Bachelor of Science**: **Materials Science and Engineering**

University of Science and Technology Beijing - Beijing,
GPA:
Cumulative GPA: 3.74/4.0, Major GPA: 3.85/4.0; Class rank: 2/33;
Honors: Kennametal Scholarship from Kennametal Inc, Top Grade People's Scholarship

SKILLS

Lab skills: Mechanical test (tensile/compressive test, bending test), SEM, X-ray CT, Injection-molding machine
Computer skills: Ansys C, C++, Unix, Python, Java, html, CSS, JavaScript, Matlab, MS Office Suite

INTERNSHIP

05/2016 to 08/2016   **Machine Learning Engineer Intern**
Enernoc, Inc. â€" Rush Springs, ,
- Developed the facial recognition and facial information extraction features based on the principle component analysis and the convolutional neural network for the company's 2nd generation smart-home device.
- Configured Theano with Nvidia's CUDA toolkit to accelerate the model training process.

05/2014 to 07/2014   **Mechanical Engineer Intern**
Acorn Product Development, Inc. â€" Boston, ,
- Performed mechanical/magnetic tests on different function materials such as magnetic materials, special stainless steel.
- Performed finite element analysis on structural materials using ANSYS.Â

07/2013 to 08/2013   **Lab Intern**
Exova â€" Concord, ,
- Engaged in the advanced materials research program of Hokkaido University, took part in lab research, group discussions.
- Operated on TEM and SEM for materials' characterization.

RESEARCH EXPERIENCES

Design and Optimization of Powder Injection Molding Products Based on Integrated Computational Materials Engineering, University of Science and Technology Beijing, Team Leader
- *Numerical simulation*: Used Ansys-CFX to conduct numerical simulation of the mold-filling Process of the feedstock mixed by SiC powder and binder components.
- *Experimental test*: Utilized PIM technique to produce samples, scanned samples using X-Ray tomography (by rotating the sample through 360 degrees with 0.9 degree angular increment) to reconstruct 3D rendering of each sample and evaluated the powder distribution of samples.

Battery Design: Freeze-casting Process to Reduce Graphite Tortuosity in Li - ion Battery Anodes, Stanford MatSci 303 final project
- Propose a new manufacturing process for Li - ion batteries anode materials, in order to reduce through-plane tortuosity and enhance fast lithium transport deep into the electrode.
- Analyze anode anisotropy properties during the lamellar growth in freeze-casting process.
- Compare freeze-casted anode with current commercialized LIB. Provide the theoretical calculation of the improvement in energy density and power density.

Magnetic Transition and Magnetocaloric Effect Study of MnNiTGe (T = Cu, Zn) Alloys, Chinese Academy of Science, Team Leader
- Explored future magnetic refrigeration alloys in the aspects of their compositions and magnetic properties.
- Launched deep research into materials compositions/phases and magnetic refrigeration properties such as magnetic entropy using X-Ray diffraction and DSC tests.

Numerical Simulation and Mechanical Tests on the Behaviors of Skateboards, University of Science and Technology Beijing, Team Leader

- Used ANSYS to conduct stress-strain simulation and simulated the fracture behaviors of skateboards materials under maximum pressures.
- Compared the numerical result with mechanical tests and analyzed fracture mechanisms.