Harrison S. Schmachtenberger

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EDUCATION

University of San Diego		San Diego, CA
BS in Mechanical Engineering	GPA: 3.85 | Major GPA: 3.96	Expected May 2017

SKILLS

Software	SolidWorks, Python, LaTeK, MATLAB, Microsoft Office Suite, Final CutPro, Adobe Premiere
Hardware	Machine Shop Fabrication, Carpentry, 3D-Printing, Laser-Cutting, Soldering

WORK EXPERIENCE

Illumina Inc. *Systems Integration Engineering Intern* Summer 2016 to Present

NextSeq Airflow Enhancement
- Assembled and tested configuration to improve thermal regulation and contamination prevention
- Created MATLAB and Python programs to parse firmware logs and analyze thermal profile data
- Improved configuration has projected savings of approximately $22 Million in remediation costs
- Validated improved hardware configurations through data collection and documentation

HiSeq Sustaining
- Used Solidworks to design parts for retrofitting and backwards compatibility
- Created drawings and purchase orders for above mentioned designs to provide manufacturers with
- Wrote MATLAB functions to predict potential machine or operator error through data visualization

Telaeris Inc. *Mechanical Engineering Intern* Summer 2015 to Fall 2015

USB-180
- Designed plastic PCB enclosures using SolidWorks and 3D printing
- Conducted relevant patent search then drafted and filed US patent for the above mentioned design

Simple Seat, Better Lives *Founder and Project Manager* Spring 2015 to Present

Integrated Crutch and Walker
- Design, construct, and test assistive devices to alleviate social stigmas and physical limitations faced by landmine survivors in Lira, Uganda while using the pit-latrine
- Orally present project at fundraising competitions
- Prototype and iterate over designs through CAD as well as physical construction and modification

USD Engineering *Undergraduate Researcher* Fall 2014 to Present

Spent Nuclear Fuel Uncertainty Quantification
- Analyzed heat transfer simulations from ANSYS-FLUENT using MATLAB and Uncertainty Quantification to characterize effects of non-constant system properties on thermal distributions in Spent Nuclear Fuel assemblies

LEADERSHIP ROLES

Tau Beta Pi Alpha Epsilon	Vice-President	Spring 2016 to Present
USD Mortar Board No. 216	Vice-President of Membership	Spring 2015 to Fall 2016
Theta Tau, Zeta Colony	Founding Father and Vice-President	Spring 2015 to Fall 2015

HONORS AND AWARDS

Goldwater Scholar Honorable Mention	Goldwater Scholarship Program	Spring 2016
Pi Tau Sigma	Mechanical Engineering Honors Society	Spring 2016
Social Innovation Challenge Winner	Simple Seat, Better Lives	Spring 2015
Essay Contest Winner	Kanetix Starving Student Scholarship	Spring 2014

PRESENTATIONS

Turbulent Shear Flow	Poster at 2015 AASPD Conference, 2015 & 2016 Creative Collaborations
Alternative Critical Thinking	Poster at 2015 AASPD Conference, 2015 Creative Collaborations
James Watt: Historical Biography	Poster at 2015 Creative Collaborations