THOMAS SHOULER
RESUME

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WORK

RICHARD / ARUP
MAY 2015 - PRESENT

"Richard" is a full stack Python web application built to address at scale the analysis & design piece of a common structural engineering workflow.

+ Initiated and delivered entire project with complete autonomy
+ Drove adoption to current use by multiple project teams to deliver structural engineering services in professional practice
+ Manages the analysis and design of 50,000 tonnes of steel for a $10B, 6,000,000 sq-ft airport project in Mexico City
+ Key underlying technologies include Celery, Flask, Highcharts, jQuery, MySQL, Oasys GSA, Polymer, and SQLAlchemy
+ Responsible for the design and full stack development of the project

POLYTHREAD PAVILION / ARUP
NEW YORK, USA
SEP 2015 - FEB 2016

PolyThread Pavilion is a gallery installation completed with Jenny E. Sabin, commissioned by the Cooper Hewitt Smithsonian Design Museum.

+ Executed suite of empirical studies with autonomy to develop material models for different textiles
+ Managed relationship with client from contract negotiation to project completion
+ Responsible for the management and delivery of the project's structural engineering and material analysis scope with guidance from senior staff

HELLO, GSA / ARUP
JAN 2015 - MAY 2015

"Hello, GSA" is a full stack Python web application built as a proof of concept to demonstrate more scalable methods of visualizing structural analysis and design data for larger, complex buildings projects.

+ Researched existing adopted measures of data visualization alongside new methods of working with different technologies
+ Solicited global leadership to secure funding for development of project
+ Key underlying technologies include Canvas, Flask, jQuery, MongoDB, Oasys GSA, three.js, and WebGL
+ Responsible for the design and full stack development of the project

GRASSHOPPER LIBRARY / ARUP
JUN 2014 - PRESENT

This project is a code block library for a visual algorithmic modelling platform, Grasshopper, which is widely adopted by the building industry.

+ Built wrappers around APIs of common industry software and formalized into visual I/O blocks, which staff rapidly assemble into throw-away algorithms
+ Responsible for the design and development of the code block library

EDUCATION

CORNELL UNIVERSITY
AUG 2011 - MAY 2012

MEng, Structural Mechanics and Materials
GPA = 3.92

CORNELL UNIVERSITY
AUG 2007 - MAY 2011

BS, Civil and Environmental Engineering
GPA = 3.42

TECHNOLOGY

ACTIVELY USING:

Bash
Flask
Grasshopper
HTML/CSS
JavaScript
jQuery
Oasys GSA
Python
MySQL
Rhinoceros
SQLAlchemy

FAMILIAR WITH:

D3.js
MongoDB
Polymer
three.js
Adobe Illustrator
Adobe Photoshop
Adobe Indesign

AWARDS

ARUP REAL BIM AWARDS — 2014
TECHNOLOGY CATEGORY WINNER

ENR AWARDS — 2013
GLOBAL BEST SMALL PROJECT

ARCHITIZER A+ AWARDS — 2013
STUDENT DESIGN/BUILD WINNER

ROLBAND FELLOWSHIP — 2012
CORNELL UNIVERSITY

KENT FELLOWSHIP — 2012
CORNELL UNIVERSITY

ETC

PROFESSIONAL ENGINEER — 2014
STATE OF CALIFORNIA

VARSITY CROSS COUNTRY AND TRACK+FIELD — 2008-2011
CORNELL UNIVERSITY