Sam Gruber

Projects

Construct
Fall 2013 - Present

Designed a programming environment which operates through geometric methods to encourage programmers' use of spatial reasoning.

Lambda Graph Generator
Spring 2013

Created a visual language for expressing computations in lambda calculus.

Automatic Tag Hierarchies
Spring 2013

Developed a machine learning system to infer a hierarchy of meaning over tags applied to a set of documents in collaboration with two others.

Pantry Chef
Fall 2011

Prototyped a mobile application that connects to a smart refrigerator and assists its user in preparing meals in a four-person group.

HEX
Fall 2011

Designed and built a pair of rollable shelters for use as an outdoor gathering space as part of a six-person team.

Experience

Nemetschek Vectorworks

Software Engineering Intern　　Summer 2012, Summer 2013

Developed a CADD application in C++ for Windows and Mac OS. Improved prerelease software based on feedback from beta testers. Planned evolution of graphics engine and updated legacy code for transition to 64-bit compilation.

CMU Computer Club

President　　August 2012 - Present

Oversaw upkeep and development of services for the Carnegie Mellon community. Managed a fifty-machine server room and conducted outreach activities related to effective computing and open-source. Directed one of the largest U.S. demoscene conferences.

Social Chair　　October 2010 - May 2012

Planned and promoted events related to open source advocacy and technology awareness.

Carnegie Mellon University

Descriptive Geometry TA　　Fall 2011, Spring 2013, Fall 2013

Instructed first-year architecture students during recitations and course review sessions about projective geometry. Wrote and graded student assignments and participated in planning the future structure of the course.

Skills

Design
Hand Drafting
Iterative Prototyping
Spatial Design
User Testing
Wireframing

Software
Illustrator
Photoshop
SketchUp
Vectorworks
Visual Studio
Win/Mac/Linux OS

Development
C/C++
Dart
HTML/CSS
Javascript
PHP
Standard ML

Frameworks
Node.js
openFrameworks
Processing

Education

Carnegie Mellon University
Bachelor of Computer Science and Arts
Concentration in Architecture　　(May 2014)
GPA　　3.52 / 4.00

Coursework
05-499　Interaction Techniques
15-312　Foundations of Programming Languages
15-411　Compiler Design
10-701　Introduction to Machine Learning
60-412　Interactive Art and Computational Design Studio
62-661　Interaction and Expression with Pausch Bridge Lighting
05-391　Designing Human-Centered Software
48-105　Architecture Studio II
62-175　Descriptive Geometry
48-100　Architecture Studio I

Contact

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