

# 2018 Portfolio

## 2018 Portfolio



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## Academic studies

### 1. **2011**

Building Engineer (Arquitecto Técnico)

UEM (Madrid, Spain)

### 2. **2012**

Building Energy certification course

COATM (Madrid, Spain)

### 3. **2014**

Traditional wood-building intensive course

Shelter Institute (Maine, US)

### 4. **2018**

Master Degree Parametric Design in Architecture

UPC (Barcelona, Spain)

## Latest experience

### 1. **2011-2013**

Web-designer / Community Manager

Versalia Traducción (Madrid, Spain)

### 2. **2013-2015**

Founder & Construction Manager

DBS (Querétaro, México)

### 3. **2015-2017**

Real Estate Agent

Engel&Völkers / Vivienda2 (Madrid, Spain)

#### 4. **2018**

Took a year to study!

Unemployed

## **Prójects**

# **Geodesic Patterns for Freeform Architecture**

### **Master Thesis - C# Implementation**

Architectural Geometry  
Fabrication-aware design  
Freeform architecture

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### **Details**

**Author:**

Alan Rynne

**Date:**

September 2018

**Website:**

<http://bit.ly/geoPattn>

**Grade:**

10/10

University:

ETSAV - UPC

Rhino

Grasshopper

C#

Optimization

# Panneling with Planar Hexagons

Complex panneling solutions

Architectural geometry

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## Details

Author:

Alan Rynne

Thiago Medeiros

David Granzewich

Date:

September 2017

Website:

[www.rynne.es](http://www.rynne.es)

Site:

Barcelona (Spain)

**Det.title:**

Some detail...

One thing

Second

More stuff

And another

...

The last one!

# Chebyshev Net Generation

**Grasshopper component implemented in C#**

Gridshell design

Active-bending structures

Chebyshev nets are a special kind of 3D grid composed only of segments of equal length. They are of special interest when designing elastically-bent gridshells, since the equal length property guarantees that the grid could be assembled 'flat' on-site, and later bent to its final shape by either manual or mechanical means.

## Details

**Author:**

Alan Rynne

**Date:**

January 2018

**Website:**

<http://bit.ly/chebNet>

**Det.title:**

Some detail...

Grasshopper

Rhino

C#

# Triangular Gridshell

**Design & Construction of an actively-bent dome**

Active-bending  
Dome structure  
Elastic membrane

## Details

**Author:**

Alan Rynne

Martina Fabré

Jatziri Rodriguez

Noelia Rodriguez

Christian Dimitri

Martí Sais

**Date:**

June 2018

**Photo cred.:**

Andrés Flajszer

ø6m

GRFP

# C# Architectural Geometry Library

**Compatible with Grasshopper and Dynamo**

C#  
Open Source  
Grasshopper  
Dynamo

After finishing my Master's Degree, I started an Open Source project to bring together all the scripts I have been developing into a more accessible and easy to use library. Currently, it supports basic mesh operations based on the 'half-edge mesh' concept, geodesic paths on meshes by solving the 'initial value problem' and the generation of geodesic patterns for panelization with planks, and other utility algorithms like water-drainage on meshes, calculating level-sets, etc. This library is still a work in progress.

## Details

**Author:**

Alan Rynne

**Date:**

October 2018

**Website:**

[www.rynne.es](http://www.rynne.es)

**Status:**

Under development

# Cutty Sark Pavillion

## A case study

Hybrid structures  
Building adaptation  
Lightweight construction

## Details

**Author:**

Alan Rynne

Uri Lewis

**Date:**

February 2018

:

# Urban Landscaping

**Random rooftop park designer**

Using Rhino+Grasshopper as the main tools

## Details

**Author:**

Alan Rynne

**Date:**

May 2018

# 3D Printing & CNC Machining

**DIY build for hobby purposes**

Do It Yourself  
Digital Fabrication  
Electronics  
Technology

## Details

**Author:**

Alan Rynne

**Date:**

2014-2016

**CNC Machine:**

Shapeoko

**3D Printer:**

Prusa i3



# Urban Data Exploration

Extraction and Analysis of urban public records in Vacarisses.

## Details

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# DIY Autonomous Drone

## Construction of a UAV

Do It Yourself  
UAV  
Electronics  
Technology  
Arduino

## Details

**Author:**

Alan Rynne

**Date:**

2015-2016

**UAV Platform:**

Ardupilot

You can always contact me at...

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