

# Dylan Thinnnes

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## Education

**University of Edinburgh, BSc in Comp. Science & Artificial Intelligence** 2017 - 2021  
Functional Programming (Haskell) 1st Year Semester 1, 98% Overall Grade  
Achieved Firsts in Computer Systems, OOP, Natural Language Processing

## Professional Experience

**Developer at Homepointr CIC** September 2018 - Present  
React, JS (ES6+), Firebase

- Head developer for company, focused on React / Redux and Firebase back-end.
- Implemented new messaging, dashboard, stakeholder connectivity features.
- Automated email sending to increase user retention at early signup stages.
- Wrote and delivered pitches for two Scottish EDGE competitions.

**Programming Club Demonstrator** September 2018 - Present  
Java, Raspberry Pi

- Demonstrator for university's programming club to prepare students for coding.
- Taught general programming skills, OOP concepts, robotics to fellow students.
- Tracked and followed student progress in order to individually tailor learning process.

**Front-End Development Intern at Traveltek Ltd.** June 2018 - September 2018  
JS (ES5), MochaJS, Nunjucks

- Conceptualized, developed new >1000 line JS component using TDD principles.
- Ensured clients' sites Internet Explorer 11 and 10 compatibility.
- Worked in team to develop, bug-fix, and ship a product line for a major contract.

## Programming Experience

### Languages

Advanced **Haskell, JavaScript** (ES6+, ES5/IE-compatible, NodeJS), **Bash**  
**HTML5** (XML, XSLT), **CSS3** (Bootstrap, SCSS, LESS), **SVG**  
Intermediate **Python, SQL** (MySQL, SQLite), **Ruby, Ruby on Rails, Java**  
Basic **Rust, C**

### Frameworks/Libraries

Browser/UI **React** (Redux, MobX, Preact, React-Router, JSX), **JQuery, Browserify**  
Testing **QuickCheck, MochaJS, SinonJS, TapeJS, JSDom**  
Haskell **Lens, Aeson, Recursion Schemes, Monad Transformers**

### Tools Used

General **Vim, Git, i3**  
DevOps **Amazon Web Services** (S3, Elastic Beanstalk, Lambda, Gateway)  
JavaScript **Node Package Manager, Webpack, Babel**

## Programming Projects

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### SolSys - A Math-Oriented Art Puzzle

JavaScript, NodeJS, AWS, Haskell (FFI)

- A three-year math-art project which converts integers to solar systems.
- Uses server-side computation, front-end UI development, 3D graphics, and SVG art.
- Developed as head of team of three.

Available at <https://github.com/dylan-thinnes/solsys>, <https://solsys.xyz>

### Me Four

ES6, Bash

- My personal site and blog, lists projects, articles, and contact info.
- Completely NoJS compatible & very small footprint.
- Collection of bash scripts & shell utils used to build the site pages.

Available at <https://dylant.org>

### Conway-Wechsler / MathExpr

Haskell (Recursion Schemes)

- Converts large numbers into their pronounceable form, e.g.  $6 \cdot 10^{33}$  = six undecillion
- Mathematical expression parser allows for entry of arbitrary integral maths.
- Option parsing & error handling mechanism for easy extension.

Available at <https://github.com/dylan-thinnes/conway-wechsler>

### asrp-classifier

Python (Scipy, Numpy)

- Image classifier for finding the upwards face of a die and classifying the face by color
- Part of a larger robotics project to calculate probabilities of unfair dice
- Uses core numpy & scipy machinery to efficiently calculate landed face

Available at <https://github.com/dylan-thinnes/asrp-classifier>

More Projects at <https://dylant.org/projects>

## Public Speaking / Presentations

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### Code Obfuscation

2019

Talk, 30 minutes

Spoke for ~30 minutes (100 slides) on strategies for Code Obfuscation to audience of 20-30.

### Scottish Edge Finalists' Funding Pitch

2018

Presentation, 3 minutes

Wrote, presented pitch to 6 panelists, one of which has now become a pilot participant.

## Volunteer Work

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Senior Patrol Leader, Patrol Leader

2015 - 2017

Debate Captain

2016 - 2017

Head of Model United Nations

2016 - 2017

## Additional Skills

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Native Fluency in **English**, Professional Fluency in **French**, Limited Fluency in **German**  
**Black Belt in Aikido**