Patrick Sandquist

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GitHub • LinkedIn • Personal

Projects

RubyOff *(Ruby on Rails, React.js)* GitHub • rubyoff.xyz

A sandboxed Ruby platform that makes learning to code a fun and interactive process.

- Executes foreign Ruby code in a secure and controlled server sandbox
- Single-page React.js application built on a RESTful JSON Rails API
- Formats and highlights code by utilizing the CodeMirror library
- Nested associations create information rich pages

Sidewinder *(Javascript)* GitHub • Live

Snake with a "twist"!

- Turbo mode changes the stepping interval when spacebar is depressed
- Uses CSS transitions to add a new dimension to gameplay

ActiveRecord Lite *(Ruby)* GitHub

An ORM inspired by the functionality of ActiveRecord

- Utilizes Ruby's metaprogramming capabilities
- Translates Ruby commands into efficient SQL queries

Skills

Ruby	**Ruby on Rails**	**Python**	**Javascript**	**jQuery**
Fortran	**SQL**	**HTML5**	**CSS**	**Git**

Education

App Academy *(San Francisco, California)* 8/2015 – 11/2015
Full-stack web development training program

University of St Andrews *(St. Andrews, Scotland)* 8/2010 – 6/2015
MPhys (Honours) Astrophysics
Dissertation: *Non-linear Oscillators and Dust Scale Heights in Protoplanetary Discs*

- Courses included: Computational Physics and Astrophysics, Monte Carlo Simulations, Bayesian Statistics, Lagrangian & Hamiltonian Dynamics
- Grants awarded: Student Staff Council Bursary & Summer Research Award, Physics Trust Research Grant

Experience

University of St Andrews *(St. Andrews, Scotland)* 6/2014 – 9/2014
Summer Research Intern

- Modeled dust species condensation and sublimation as a member of the international DIANA research team
- Monte Carlo techniques were used to iteratively solve the equilibrium chemistry for 18 distinct dust species in a model protoplanetary disc
- First team member to use the SciPy Python library for result visualization

Isaac Newton Group of Telescopes *(La Palma, Canary Islands)* 6/2013 – 9/2013
Summer Research Student

- Wrote, tested, and optimized Python scripts for flat field automation on the Isaac Newton (INT) and William Herschel (WHT) Telescopes
- Reduced images to produce a color photometry catalogue of stars in M71