Julian Smith

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Education

University of Oregon — 2013 - 2020
Ph.D. Physics — GPA: 4.07
Masters in Physics

Washington State University — 2007 - 2011
Bachelor of Science in Physics. — Cum Laude
Minor in Mathematics — GPA: 3.50

Experience

CloudSmiths — **Founder**
Remote — January 2021 - present
Data Science and ML solutions for novel problems. We developed an ML model (fastai, transfer learning, Resnet) that successfully classifies Pollock vs non-Pollock paintings with high accuracy based on visual appearance. Contracted with ConcentricSky (microcredentials) and Fractals Research (fractal art analysis).

CuddleSmith — **Founder**
Seattle WA — October 2023 - present
Platonic physical and emotional connection

Vulnerability Whore — **Founder**
Seattle WA — January 2024 - present
Facilitates workshops where by using erotically explorative and somatically grounded practices, our wants, and limits pave the way to leading life with a more whole self.

Sipscience — **VP, Data Science and Engineering**
Remote — June 2020 - August 2022
Lead data science strategy and innovation. Played a critical role in pivoting us to an efficient data strategy to mitigate unprecedented circumstances due to the Covid-19 pandemic. Active till December 2020 and in an advisory role till August 2022.

UO Department of Physics — **Research Assistant**
Eugene, OR — June 2014 - May 2020
Performed computational studies/analysis to determine how neurons might leverage their geometry to optimize their network connectivity. Investigated cell-cell and cell-surface interactions due to primarily geometric properties.

Fractals Research LLC — **Fractal Analysis Consultant**
Eugene, OR — October 2015 - present
Preforms and develops analyses for detecting Jackson Pollock forgeries.
Worked in a team to design award winning carpets in collaboration with 13&9 Design and the Mohawk Group. **mohawkgroup.com/carpet/collections/relaxing-floors**

Science Literacy Program — **Science Literacy Fellow**
Eugene, OR — January 2015 - March 2015
Worked directly with the instructor to help design homework, tests, and activities. I worked interactively with the students and gave independent lectures.

CUB Department of Physics — **Research Assistant**
Boulder, CO — November 2012 - June 2013
Developed and tested game based review sessions for an introductory astronomy course. Developed a survey for pas participants of the New Faculty Workshop.

CUB Athletics Department — **Physics/Math Tutor**
Boulder, CO — October 2012 - June 2013
Athletic department tutor.

Free Lance Tutor — **Physics/Math Tutor**
Boulder, CO — November 2012 - August 2013

Independent (tutoring by donation) and with Companies (Tried & True Tutoring, My Boulder Tutor, and Tutor Doctor).

WSU Department of Physics — **Research Assistant**
Pullman, WA — May 2010 - June 2011
Computational modeling using Origin C and Mathematica to optimize the nonlinear-optical susceptibilities using bent quantum wire systems.

WSU Department of Physics — **Physics Lab Instructor**
Pullman, WA — Spring 2011
Lecturer and mentor for the calculus based 'Physics for Scientists and Engineers' second semester lab section. Reviewed above average in every category on student evaluations.

Eldora Mountain Resort — **Ski instructor**
Nederland, CO — December 2012 - April 2013
Mostly taught children ages 4+

WSU Center for Advising and Career Development — **Physics/Math Tutor**
Pullman, WA — Oct. 2009 - May 2011
5 hours a week of drop in tutoring and private tutoring sessions for two academic semesters.

Reichenou Primary School — **Mathematics Instructor**
Reichenou, South Africa — Feb. 2012 - March 2012
In charge of the math program for a mixed class of students, grades 6th/7th.

Faith Way Private School — **Substitute Teacher**
Underberg, South Africa — Feb. 2012 - March 2012
On call for all classes, grades 9-12.

Clouds of Hope(Orphanage) — **Volunteer**
Underberg, South Africa — Feb. 2012 - April 2012
On site volunteer. In charge of a group tutoring for 6-9th grade and the "play group", helping Kindergartners acquire the English and cognitive skills necessary to make a smooth transition into public school. General mentor and group activity leader.

Palouse Clearwater Search and Rescue — **Volunteer**
Moscow, Id — Sept. 2010 - June 2011

P.S. I Love You (Daycare) — **Volunteer**
Pullman, WA — Spring 2010

Publications

How neurons exploit fractal geometry to optimize their network connectivity — January 2021
Scientific Reports
Authors: Julian H. Smith, Conor Rowland, R.P. Taylor et al.

The Roles of an Aluminum Underlayer in the Biocompatibility and Mechanical Integrity of Vertically Aligned Carbon Nanotubes for Interfacing with Retinal Neurons. — May 2020
Micromachines
Authors: Saba Moslehi, Julian H. Smith, R.P. Taylor et al.

Relaxing Floors: Fractal Fluency in the Built Environment — Jan 2020
Nonlinear Dynamics, Psychology, and Life Sciences
Authors: Julian H. Smith, R.P. Taylor et al.

Seeing shapes in seemingly random spatial patterns: Fractal analysis of Rorschach inkblots — Jan 2020
PLoS ONE
Authors: R.P. Taylor, Julian H. Smith et al.

Fractal Electronics as a Generic Interface to Neurons — Aug 2016
The Fractal Geometry of the Brain

Authors: William J. Watterson, Julian H. Smith, R.P. Taylor et al.

The influence of geometry and topology of quantum graphs on their nonlinear-optical properties July 2012
Authors: Rick Lytel, Shoresh Shafei, Julian H. Smith, Mark G Kuzyk

Conference Proceeding

Understanding Educational Transformation: Findings from a Survey of Past Participants of the Physics and Astronomy New Faculty Workshop July 2013
Authors: Melissa H. Dancy, Charles R. Henderson, and Julian H. Smith

Awards

Architectural Product of the Year Award 2019
Developed software and worked on the design team.

Buildings Merit Innovation Award 2019
Developed software and worked on the design team.

Gold in the Nightingale Awards Competition 2019
Developed software and worked on the design team.

Honorary Interior Design NYC-DESIGN Award 2019
Developed software and worked on the design team.

The Interior Design HiP Award 2019
Developed software and worked on the design team.

The Metropolis NYC-DESIGN Award 2019
Developed software and worked on the design team.

The NeoCon Best of Show Innovation Award 2019
Developed software and worked on the design team.

Weiser First-year Teaching Assistant award June 2014
On recommendation of faculty teaching lower division laboratory or lecture physics classes, awarded annually to as many as three first year graduate students for exemplary performance as a teaching assistant in lower division physics classes.

Big Ten Senior in Academics Spring 2011
One of ten recipients in five categories.

College of Science Poster Competition Spring 2011
1^{st} place in Physical Sciences and Engineering category for research on "The Optimization of Nonlinear-Optical Susceptibilities Using Bent Quantum Wire Systems."

WSU Emeritus Society Undergraduate Award for Physical Sciences Spring 2011
Awarded for work done on "The Optimization of Nonlinear-Optical Susceptibilities Using Bent Quantum Wire Systems."

International University Physics Competition Fall 2010
"Aerobraking a Space Probe at Neptune" Bronze Medal

President's Honor Roll Fall 2009 - Graduation

University Achievement Award Fall 2007 - Spring 2009

Paul Bender Scholarship Fall 2009

S.M.A.R.T. Grant Spring 2009

Skills

Frameworks & Languages
Technical(*Python, MATLAB, C/++, SQL, Processing, LaTeX, Mathematica, Origin, Pandas, fastai, Scikit-Learn, pytorch, tensorflow, selenium, requests, matplotlib, terraform, seaborn, openCV, Git, Jupyter, Superset, Google Cloud*), Native(*English*), Conversational(*Deutsch, Español*)

Broad Expertise
Communicating Science & Data to Broad Audiences, Computational Bio/Physics, Machine Learning, Software Engineering, Models and interpretation, Data Visualization, Wilderness First Responder

Culture

Travel
30 countries in the Americas, Europe, and Africa and 2 years of active travel.

Hobbies
Alpine touring, mountaineering, partner acrobatics, juggling, film, barefoot adventures. etc.

Activities

Graduate Admissions Committee — Member
Eugene, OR — Winter 2015
Reviewed prospective physics doctoral student applications for the University of Oregon program.

Undergraduate Curriculum Committee — Member
Eugene, OR — September 2014 - September 2015
Works with the faculty on the curriculum committee, which decides on the undergraduate curriculum.

Orientation Committee — Member (co-chair)
Eugene, OR — (September 2014) - present
Plans and administers the training activities for summer undergraduate TAs. Plans and administers the teaching-related and grad-life related portions of the first year orientation. Gauges the effectiveness of the training via surveys and feedback sessions.

Recruiting Committee — Member
Eugene, OR — September 2013 - present
Works with the faculty recruiting committee to plan and run the recruiting weekend in the spring.

Science Fair Judge — Volunteer
Eugene, OR — Winter 2015
Middle School judge for the hard sciences.

EWEB Solar Challenge — Volunteer
Eugene, OR — May 2015
Judged the design portion of a make your own solar vehicle event.

WSU Physics and Astronomy Club — President (Member)
Pullman,WA — Fall 2008 - Spring 2009(Graduation)
Arranged various activities and demo shows throughout the year.

Seminars

Synaptic: Psilocybin Facilitation Training Program — August 2023 - March 2024
Online and Oregon
Psilocybin program qualifies graduates for licensure as psilocybin facilitators under Oregons Psilocybin Services Initiative (Measure 109). Combination of classroom, practicum, apprenticeship, and personal cultivation hours.

10 Day Meditation Seminar — January 2024
Onalaska WA
Silent Vipassana meditation taught by Goenka.

Like A Pro — October 2023
Seattle, WA
The Wheel of Consent for practitioners. A model of relating which brings greater clarity and authenticity to our relationships in all areas of life.

Wilderness First Responder Recertification — October 2022
Seattle, WA
Reciterfication for outdoor medical skills.

Neurotechnologies for the analysis of Neural Dynamics (NAND) June, July 2016
Princeton, NJ
Quantitative training in the physical sciences, mathematics or engineering to the concepts and research methodologies of modern neuroscience.

Alan Alda Communicating Science Workshop May 2014
Eugene,OR
Focus on improvisation, distilling a science message, and communicating with the media.

Permaculture Seminar with Sepp Holtzer May 2012
Dayton, MT

Joel Hardin Professional Tracking Services April 2011
Camp Sanders,ID

Cultural Competency Training November 2007
Pullman, WA

Course Work Advanced Biophysics Quantitative Biology Developmental Biology