

SHAWN T. SCHWARTZ

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EDUCATION

University of California, Los Angeles (UCLA), Los Angeles, CA Sept. 2015 – Exp. June 2019

Bachelor of Science (B.S.), Cognitive Science, Specialization in Computing

Highest Departmental Honors and Thesis, *Candidate*

Thesis: *Risks and rewards: Memory for positive and negative item-location associations.*

Primary Advisor: Dr. Alan D. Castel

Bachelor of Science (B.S.), Biology, Specialization in Computing

Departmental Honors and Thesis, *Candidate*

Thesis: *The evolution of color pattern in Butterflyfishes (Chaetodontidae).*

Primary Advisor: Dr. Michael E. Alfaro

RESEARCH INTERESTS

I am broadly interested in bridging gaps in research across the disciplines of ecology, comparative evolutionary biology, and the cognitive sciences. **Cognitive:** computational modeling, metacognition, metamemory, risk-reward motivation, visuospatial memory. **Ecology and Evolutionary Biology:** computational and comparative phylogenetics, biological statistical modeling, classification of biodiversity, macroevolution.

CURRENT PAID APPOINTMENT

UCLA New Student & Transition Programs

New Student Advisor

Los Angeles, CA

April 2019 – Present

NSA Gold Team member for Summer 2019.

- Live-in academic and peer guidance counselor for incoming first-year freshmen and transfer students.
- Make over 15 hours of phone calls to incoming students in the Bruin-to-Bruin phone calling project to inform them of important registration and new student orientation related deadlines.
- Professional member of a large team in charge of directing academic enrollment and new student orientation presentations for thousands of new incoming UCLA students.

PUBLICATIONS

- [2] Alfaro, M. E., Karan, E. A., **Schwartz, S. T.**, & Schultz, A. J. (in press). The evolution of color pattern in Butterflyfishes (Chaetodontidae). *Integrative and Comparative Biology*.
- [1] Dang, J., Lin, B., Yuan, J., **Schwartz, S. T.**, Shah, R. M., & Garg, N. K. (2018). Smart access to 3D structures. *Nature Reviews Chemistry* 2, 95 – 96. <https://doi.org/10.1038/s41570-018-0021-y>
[View PDF](#)

MANUSCRIPTS IN PREPARATION

- [1] **Schwartz, S. T.**, Siegel, A. L. M., & Castel, A. D. (in prep). *Risks and rewards: Memory for positive and negative item-location associations*. Manuscript in preparation.

CONFERENCE POSTERS

- [3] **Schwartz, S. T.**, Siegel, A. L. M., & Castel, A. D. (upcoming 2019, May). *Risks and rewards: Memory for positive and negative item-location associations*. To Be Presented at the 4th UCLA Annual Undergraduate Research Poster Day in Los Angeles, CA. May 21. **Dean's Prize Nomination**.
- [2] **Schwartz, S. T.**, Siegel, A. L. M., & Castel, A. D. (upcoming: 2019, May). *Risks and rewards: Memory for positive and negative item-location associations*. To Be Presented at the 28th Annual UCLA Psychology Undergraduate Research Conference in Los Angeles, CA. May 10.
- [1] **Schwartz, S. T.**, Siegel, A. L. M., & Castel, A. D. (2019, May). *Memory for positive and negative item-location associations*. Presented at Whittier College's 17th Annual Psi Chi Psychology Undergraduate Research Conference in Whittier, CA. May 4.

TALKS

- [2] Invited Speaker, *Quantitative approaches to studying color-pattern evolution*, **Claremont McKenna College**, W.M. Keck Science Department: Biology, May 2, 2019.
- [1] Thesis Talk, *Risks and rewards: Memory for positive and negative item-location associations*, **UCLA**, Department of Psychology, May 1, 2019.

RESEARCH EXPERIENCE

Foster Lab, UCLA, Los Angeles, CA January 2019 – Present
Department of Sociology
Visiting/Collaborating Computational Undergraduate Research Assistant
Principal Investigator: Dr. Jacob G. Foster

- Developing computational models to study the birth, life, and death of television series.

Alfaro Lab, UCLA, Los Angeles, CA September 2018 – Present
Department of Ecology & Evolutionary Biology
Undergraduate Honors Thesis Student & Research Assistant
Principal Investigator: Dr. Michael E. Alfaro

- Designing novel machine learning image processing algorithms to quantify biodiversity amongst extant species of coral reef fishes.

Memory and Lifespan Cognition Lab, UCLA, Los Angeles, CA February 2018 – Present
Department of Psychology
Undergraduate Highest Honors Thesis Student & Research Assistant
Principal Investigator: Dr. Alan D. Castel

- Developed novel computational approaches to study value-directed remembering and attentional load in the visuospatial domain. Investigating the effects of priming and interference in everyday memory and attention.

Garg Lab, UCLA, Los Angeles, CA
Department of Chemistry and Biochemistry
Undergraduate Research Software Developer
Principal Investigator: Dr. Neil K. Garg

January 2018 – July 2018

- Co-developed a novel tool for visualizing 3D molecular structures interactively during large-lectures and research conference posters through a custom interface and custom QR codes. <https://qrchem.net>

NASA Jet Propulsion Laboratory (JPL), Pasadena, CA
Computational Chemistry Researcher

October 2013 – March 2014

- Developer of Software: “*Computational Simulation of Multidimensional H₂O Molecule Interactions*” (Java + MATLAB) under the mentorship of Dr. William N. Warner.

TECHNICAL & LABORATORY SKILLS

- **Programming (10 Years of Experience)**

Fluent in C++, Python, MATLAB, R, Java, PHP, HTML5, CSS3, JavaScript

Proficient in Swift, MySQL, Ruby, JSON, jQuery, AngularJS, Node.js

Machine Learning Frameworks/Deep Learning Models: TensorFlow, Keras, AlexNet & VGG16 DCNNs

Statistical Packages: tidy, colordistance, dplyr, pavo, magick

Other Libraries & Tools: jsPsych, Collector, Psychtoolbox, Jekyll, Jmol, JSmol, p5.js

- **Applications & Operating Systems**

Bash, Git, L^AT_EX, SPSS Statistics, Microsoft Excel, Sublime Text, R-Studio, Xcode, Jupyter Notebook

Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Adobe Lightroom, Adobe XD CC

MacOS, Windows, Linux, iOS, Android

- **Statistical**

Analysis of variance, correlation, chi-square, regression, hierarchical linear modeling (HLM), Principal Component Analysis (PCA), Independent Component Analysis (ICA), Bayesian inference, Multidimensional scaling, partitional k-means & hierarchical agglomerative clustering, dendrogram analysis

- **Laboratory**

Titration, Micropipetting, Gel Electrophoresis, Mass Spectrometry, IR, H,C-NMR Analysis

Functional Neuroimaging (fMRI) & FMRIB Software Library (FSL)

PAID TECHNICAL EXPERIENCE

Associated Students UCLA (ASUCLA)

Los Angeles, CA

Lead Student Full-Stack Web Developer / Technical Assistant

January 2016 – March 2019

- Redesigned entire ASUCLA institutional website & implemented backend for Board Members to access and edit site content. Site reaches over 500,000+ unique views annually. <http://asucla.ucla.edu>
- Assisted in designing layout & developed backend JavaScript solutions for responsive headers on the new UCLA Store e-commerce website. <http://uclastore.com>
- Developed a JavaScript kiosk program to run historical timeline of UCLA in Ackerman Union Level 1.
- Designed & programmed interactive JSON ASUCLA Store Reward Points checker & PHP-based menus for campus restaurants.
- Designed, coded, and sent out weekly mass email promotions for 12 UCLA campus stores (10,000,000+ emails delivered per year).

Kidz Dental Care

Porter Ranch, CA

Designer & Web Developer

July 2017 – June 2018

- Designed, built, and currently maintains (per diem) pediatric dentistry’s responsive websites. <https://kidzdentalcare.com> & <https://kidzdentalcare661.com>
- Created HIPAA-compliant secure patient information pipeline (PHP) that generates & transmits secured PDF information forms to streamline patient-doctor experience and reduce wait-times.

LanguageBird®, LLC

Lead Full-Stack Developer & Programmer

Los Angeles, CA
July 2016 – March 2018

- Developed and managed dynamic user experience for WASC accredited online school providing WASC, University of California, and NCAA approved online 1:1 foreign language courses and credit to over 1000 high school students, worldwide. <https://languagebird.com>

ACADEMIC TECHNICAL EXPERIENCE

QR Chemistry

Software Development Consultant & Application Designer

Los Angeles, CA
January 2018 – July 2018

- Part of the development & execution team of an Apache Cordova wrapped application that provides smart access to 3D molecular structures for enhancing organic chemistry education in the classroom. <https://qrchem.net>
- Developed with the guidance & support of Dr. Neil K. Garg & Dr. Daniel Caspi.
Published in *Nature Reviews Chemistry*, [1] & Supporting Article in *The Daily Bruin*.

VOLUNTEER EXPERIENCE

UCLA Health

Care Extender Internship, Department Coordinator Assistant (DCA)

Santa Monica, CA
January 2017 – February 2019

- Shadowed out-patient surgeons and radiology technicians for in-patient and emergency department cases, and checked in patients for early-morning surgeries in admissions.
- *Department Coordinator Assistant*: Audited fellow Care Extender Volunteers throughout their assigned departments to maintain the quality and integrity of the Care Extender Internship Program.
- **Total Volunteered Hours: 814 hours.**

UCLA Health, Faculty Practice Group (FPG)

Population Health Care Coordinator Intern

Los Angeles, CA
June 2017 – September 2018

- Invented, developed & maintained novel web-software for UCLA Health Hospice & Palliative Care Departments: *myEMRA*®: “*my Electronic Matching Resource Assistant*”.
- Outreached to patients via telephone encounters to obtain missing medical procedure records.
- Maintained innovative Excel Database from UCLA patients’ Electronic Medical Records (“CareConnect”) and 9 local hospice agencies for tracking and drawing new statistical conclusions regarding UCLA hospice referrals to external agencies.
- **Total Volunteered Hours: 451 hours.**

UCLA Center for Accessible Education (CAE)

Volunteer Notetaker

Los Angeles, CA
January 2017 – September 2018

Provided quality, detailed notes for students with registered disabilities, for the following courses:

- Psychology 20A: Introduction to MATLAB Programming (Winter 2017)
- Psychology 100B: Research Methods in Psychology (Fall 2017)
- Psychology 124C: Human Memory (Winter 2018)
- Ecology and Evolutionary Biology 186: Evolutionary Medicine (Summer 2018)

Providence Tarzana Medical Center

Engineering Facilities Intern

Tarzana, CA
September 2014 – January 2015

- Assisted clinical staff with errands, clerical duties, and medical technology-related problems; helped patients with ambulatory tasks; discharged patients.
- **Total Volunteered Hours: 50 hours.**

LEADERSHIP EXPERIENCE

Back Off Bully Organization

Co-Founder & Web Developer

Chatsworth, CA

March 2014 – Present

Back Off Bully is an organization that is working to end the bullying epidemic and give self-confidence to those affected by it.

- Built an international network, in over four countries, of thousands of children and adults through website outreach and social media campaigns.
- Established connection and relationship, through outreach, with our organization's Main Sponsor: **Nancy Cartwright** (Voice of Bart Simpson from *The Simpsons*). <https://backoffbully.org>

AWARDS & PROFESSIONAL MEMBERSHIPS

Awards:

- Highest Departmental Thesis Honors in Psychology, *UCLA*, Expected June 2019
- Departmental Thesis Honors in Ecology and Evolutionary Biology, *UCLA*, Expected June 2019
- Dean's Prize *Nomination* for Excellence in Presentation of Undergraduate Faculty-Mentored Research, *UCLA*, April 2019
- Distinguished Care Extender of the Rotation, *UCLA Health, Santa Monica Hospital Surgery Center*, October 2018
- Distinguished Community Service Award & Rank 1/81 Valedictorian, *High Tech Los Angeles High School*, June 2015
- Certificate of Congressional Recognition for outstanding community contribution to end the bullying epidemic and provide self-confidence for those affected by it, *City of L.A. & 12th Council District*, July 2014

Professional Memberships:

- American Psychological Association (APA), *Undergraduate Student Affiliate*,
Member: American Psychological Association of Graduate Students (APAGS)
- Association for Psychological Science (APS), *Undergraduate Student Affiliate*