

# Shaun Wallace

HCI SYSTEMS RESEARCHER · SOFTWARE ARCHITECT

☎ (+1) 401-952-3248 | ✉ shaun\_wallace@brown.edu | 🏠 shaunwallace.org

## Expertise

---

### SUMMARY

I am a systems researcher and data scientist with a diverse background in building, automating, and maintaining data-driven systems on the web. These systems augment human behavior by tracking user-behaviors to create real-time models to empower end-users. My research combines the science of crowdsourcing with mining subtle forms of human interactions to create human-in-the-loop systems. I want to collaborate and lead teams to develop creative applications and solutions through dedicated research and human interaction. I care deeply about the pursuit of higher learning, mentorship, and collaboration to develop and enhance future ideas and technology.

**Team Lead** Empower Team Members, Project Management, Agile, SCRUM, Mentoring, Code Reviews, AB & User Acceptance Testing

**Languages** Javascript, Python, Java, Golang, C++, MySQL, PostgreSQL, HTML5/CSS, Svelte, D3, Bash

**Full Stack** Linux (CentOS, Debian, Ubuntu), Docker, LDAP/ActiveDirectory, Custom Authentication, Message Queue

**Data** Expert Data Modeller, Statistical Analysis, Machine Learning, ETL, Visualization, Restful Web Services, API Builder

**Design** UI/UX Expert, Personas, Card Sorting, Storyboarding, Iterative Low & High Fidelity Prototyping, Responsive Design

## Education

---

### Brown University, Dept. of Computer Science

*Providence, RI*

PHD CANDIDATE COMPUTER SCIENCE (REACHED CANDIDACY 2018)

*Current*

- Advisor: Jeff Huang
- Research: Human Computer Interaction, Crowdsourcing, Collective Intelligence, Design, Peer Production, & Data Science

### Brown University, Dept. of Computer Science

*Providence, RI*

MSC COMPUTER SCIENCE

*2017*

- Advisor: Jeff Huang

### University of Limerick, Dept. of Computer Science and Information Systems

*Limerick, IE*

MSC MUSIC TECHNOLOGY, 1ST CLASS HONOURS

*2009*

- Advisor: Kerry Hagan
- Thesis: Real-time Audio Spectra Manipulation with Adaptive FM Synthesis
- Thesis Software: Spectralis, the first real-time interactive example of Adaptive FM Synthesis

### University of Rhode Island, College of Business

*Kingston, RI*

BSC MANAGEMENT SCIENCE & INFORMATION SYSTEMS, SUMMA CUM LAUDE

*2008*

- Placed top 5% in the world for Corporate Business strategy challenge

## COURSEWORK

**Computer Sci** Human Computer Interaction, UI/UX, Personal Informatics, Scientific Visualization, Database Management Systems, Computational Linguistics, Machine Learning, & Research Methods

**Music Tech** Audio Engineering, Algorithmic Music Composition, Ethnomusicology, Programming Music Systems, Computer Systems & Models in Music, Interactive Media in Public Spaces, Sound Synthesis and Manipulation, Acoustics & Psychoacoustics

**Business** Project Management, Accounting, Finance, Economics, Statistics, Business Policy, Software Development, Databases, Networking, Marketing, Operations & Supply Chain Management

**DRAFTY PLATFORM FOR RESEARCH** Drafty is a smart crowd editing web platform. It recruits editors from anonymous visitors to help fix out-of-date or incorrect data in a large spreadsheet. For example, visitors to a structured dataset, which may contain errors, are asked to review data that matches their interests. Their interests are mined from their interactions using the User Interest Profile. Results from this work have been featured in magazine articles, presented to the NSF, and used by several Computer Science Departments around the country to inform hiring decisions.

**SKETCHY CREATIVITY SUPPORT TOOL** Sketchy is a web-based drawing application that allows users to join dedi-

cated virtual rooms and get inspiration from their peers in real-time. Sketchy selects the most inspirational drawing in a room based upon a Peek Model, a feature-based binary classifier trained with labels made by students in classroom design activities.

## Publications

---

### Sketchy: Drawing Inspiration from the Crowd

CSCW 2020

WALLACE S., LE B., LEIVA L., HAQ A., KINTISCH A, BUFREM G., CHANG L., HUANG J.

### Accelerating Adult Readers with Typeface: A Study of Individual Preferences and Effectiveness

CHI 2020 LBW

WALLACE S., TREITMAN R., HUANG J., SAWYER B., BYLINSKII Z.

### Individual Differences in Font Preference & Effectiveness as Applied to Interlude Reading in the Digital Age

VSS 20

WALLACE S., TREITMAN R., HUANG J., SAWYER B., BYLINSKII Z.

### Drafty: Enlisting Users to be Editors who Maintain Structured Data

HCOMP 2017

WALLACE S., VAN KLEUNEN L., AUBIN-LE QUERE M., PETERKIN A., HUANG Y., HUANG J.

### Visualizing Self-Trackd Mobile Sensor and Self-Reflection Data to Help Sleep Clinicians Infer Patterns

CHI 2017 LBW

WALLACE S., SASSON D., GUO H.

## Teaching, Service, & Awards

---

### TEACHING

- 2018 **Guest Lecture - User Interfaces and User Experience**, Brown University CSCI 130/1300
- 2018 **Guest Lecture - Human Computer Interaction Seminar**, Brown University CSCI 2300
- 2017 **Graduate Teaching Assistant - User Interfaces and User Experience**, Brown University CSCI 130/1300
- 2016 **Teaching Assistant - User Interfaces and User Experience**, Brown University CSCI 1300

### MENTORSHIP

- Current **Long Do**, Brown University
- Current **Diana Lee**, Brown University
- 2019-20 **Matthew Bejtlich**, Rhode Island School of Design RISD
- 2019-20 **Zhengyi Peng**, Brown University Microsoft
- 2018-19 **Brendan Le**, Brown University
- 2019 **Michael Bardakji**, Brown University PhD at Univ. Washington
- 2018-19 **Neilly Tan**, Brown University
- 2018 **Audrey Kintisch**, Brown University
- 2018 **Andrew Park**, Brown University
- 2017-18 **Gabrielle Bufrem**, Brown University now at Pivotal Labs
- 2017-18 **Aman Haq**, Brown University now at Microsoft
- 2017 **Linda Chang**, Brown University
- 2017 **Aarthi Anbalagan**, Brown University now at Microsoft
- 2017 **Abraham Peterkin**, Brown University now at Nickelodeon
- 2017 **Yirui Huang**, Brown University now Univ Edinburgh
- 2016 **Marianne Aubin-Le Quere**, Brown University PhD at Cornell
- 2016 **Lucy Van Kleunen**, Brown University PhD at Univ. Colorado

### SERVICE

- 2020 **Reviewer**, CHI 21
- 2020 **Reviewer**, International Journal of Human-Computer Studies
- 2020 **PC Member**, CIKM Posters/Abstracts 20
- 2020 **Reviewer**, CSCW 20
- 2020 **Reviewer**, CHI LBW 20
- 2019 **Reviewer**, CHI 20
- 2019 **Reviewer**, HCOMP 19
- 2019 **Reviewer**, CHI Play 19
- 2018 **Reviewer**, UIST 18
- 2018 **Reviewer**, SIGIR 18
- 2018 **PC and Reviewer**, WWW 18 Developer
- 2017 **Reviewer**, CHI 18
- 2017 **Student Volunteer**, HCOMP 17
- 2017 **Reviewer**, CHI 17 LBW
- 2016 **Reviewer**, CHI 17

## AWARDS

- 2020 **Sigma Xi Honor Society**, Brown University
- 2017 **Graduate Fellowship**, Brown University
- 2009 **President's Letter for Academic Excellence**, University of Limerick
- 2008 **Golden Key International Honor Society**, University of Rhode Island
- 2004 **Beta Gamma Sigma Honor Society**, University of Rhode Island

## CERTIFICATIONS

- 2017 **Biomedical and Social/Behavior Research Investigators and Key Personnel**, CITI
- 2017 **Responsible Conduct of Research**, CITI
- 2016 **Leadership Certification Program**, Brown University

## Professional Experience

---

### Research Intern

*Cambridge, MA*

ADOBE, CREATIVE INTELLIGENCE LAB

*Jul 2019 - Current*

- Build a suite of web applications to enable studying user behavior at scale.
- Collaborate with Research Scientists to investigate and implement new business initiatives through empirical research.
- Design, implement, and study results from user studies.
- Analyze large data sets to deliver insights to Senior Scientists and collaborators.

### Lead Systems Programmer

*Providence, RI*

BROWN UNIVERSITY, DEPT. OF COMPUTER SCIENCE

*Jan 2018 - Current*

- Lead the development of new software solutions and enhancements to existing software systems to support the delivery of computing services to educators, researchers, staff and students.
- Design and develop system architecture, software design, implementation, testing, debugging, deployment, documentation and maintenance of new software systems and enhancements.
- Mentor system programmers, perform code reviews, and lead collaborations across departments.
- Focus on implementing new web-applications to support new business initiatives.
- Create automated ETL processes to learn trends and analyze data between new and legacy systems.

## Senior Application Developer

Providence, RI

BROWN UNIVERSITY, ICERM

Mar 2011 - Aug 2017

- Manager of Development team and lead role for design, development, testing of all web applications and back-end services.
- Manager and lead developer of central NSF Math Institutes web applications & data services.
- Engineer user experiences using a plethora of industry standard UI/UX best practices
- Create several automated data analysis tools and business solutions following Agile and DevOps methodologies and best practices.
- Assess, analyze, and improve business processes and workflows.
- *Project Highlight:* Architected Cube, a centralized enterprise data management platform. It is our main data collection and reporting system for research and professor data. It supports all departmental business functions. Integrates several functions of legacy applications and systems. Contributed to Vaadin open source integrations. Implements a Restful API to share public information. User and role based security, actions, and views. Uses responsive design for mobile and tablets and integrated analytics. System eliminates several departmental bottlenecks and creates a seamless user experience for staff and stakeholders.
- *Project Highlight:* Served as the Technical Lead on the NSF Joint Media Database System. A searchable media web repository for the National Science Foundation (NSF) Math Institutes. Plan and manage the agile development of the project based upon budget and grant proposal. Assess and communicate with contracted developers to ensure deliverables arrive on time and within budget.
- *Project Highlight:* Created department's initial website and branding. Also, lead a website redesign process in 2017. Designed GUI, scripts, and add-ons to enhance user experience and boost productivity for site updates and maintenance. Integrates technologies from several other in-house and external platforms for seamless updates and communication to our stakeholders.
- *Project Highlight:* Created new algorithm to systematically clean and learn from user inputted data. For example, the algorithm analyzes trends in nicknames of universities to automatically clean data. Is backwards compatible and has cleaned over 30 years worth of legacy data. Increased department's ability to generate ad-hoc and annual reports for the NSF and disseminate trends in data.

## RPS

South Kingstown, RI

SOFTWARE DEVELOPER

Jul 2010 - Nov 2010

- Design cutting edge web technologies used by governments and companies around the world.
- Develop reusable frameworks and tools for internal and external clients.
- Enhance UI and UX designs for legacy Flex components.
- *Project Highlight:* Develop beta of Oil Map Web software. Upgraded alpha components and integrated new components and features of ArcGIS with Flex. Collaborated with developers to modify generated data points and Restful framework for new mapping types. Enhanced front-end code running time by more than 90%. Rewrote part of ArcGIS framework to allow for cross-talk communications between various embedded Flex components and widgets.

## University of Rhode Island, Division of Student Affairs

Kingston, RI

WEB DEVELOPER

Jan 2010 - Jun 2010

- Serve on Technology & Communications Committee for Division of Student Affairs. Tasked with research and decisions regarding the future use and implementation of technology to increase student retention and overall well-being.
- Work with 23 departments to develop new websites and improve UI, UX functions.
- Plan, coordinate, and manage website features and future maintenance.
- Develop timelines and scope of work for each department.
- Assist URI CSPD with IT needs and management of students.

## University of Rhode Island, Conference Services & Special Program Development

Kingston, RI

WEB DEVELOPER

May 2005 - Dec 2009

- Manage & develop over 30 conference registration systems, data, and websites per year.
- Plan, coordinate, and manage over 30 small and large scale events per year.
- Budget finances and prepare contracts and timelines for events.
- Co-manage financial, AP, and AR operations for all events.
- Serve as first point of contact between potential clients and University.
- *Project Highlight:* Developed Request for Proposal System to serve as initial point of contact for potential clients. Starts the data collection process to assess their needs and begin to plan our proposal for their event.