
BIOGRAPHICAL SKETCH

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NAME: Pablo E. Parees, PHD, MBA

POSITION TITLE: Instructor, Radiology & Psychiatry Departments, School of Medicine, Stanford University

eRA COMMONS USER NAME (credential, e.g., agency login): PABLO

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Universidad Politécnica Salesiana, Cuenca, Ecuador	Engineer	1999	Electronics
Georgia Institute of Technology, Atlanta, GA	MS	2003	Computer Engineering
Georgia Institute of Technology, Atlanta, GA	MBA	2004	Business
University of California - Berkeley, Berkeley, CA	PhD	2015	Computer Science – Human Computer Interaction
Stanford University, Stanford, CA	Postdoc	2017	Computer Science – Human Computer Interaction

A. Personal Statement

Pablo Paredes earned his PhD in Computer Science from the University of California, Berkeley in 2015. He is part of the faculty, as an Instructor, in the Radiology and Psychiatry Departments in the School of Medicine at Stanford University. Prior to joining the School of Medicine, he was a Postdoctoral Researcher in Computer Science at Stanford University for two years. During his PhD career, he held internships on behavior change and affective computing in Microsoft Research and Google. Before 2010, he was a senior strategic manager with Intel in Sao Paulo, Brazil, a lead product manager with Telefonica in Quito, Ecuador and an Entrepreneur in his natal Cuenca, Ecuador. In these roles, he has had the opportunity to closely evaluate designers, engineers, business people and researchers in telecommunications, product development, and ubiquitous computing (Ubicomp). He has advised several PhD, masters, and undergraduate students.

B. Positions and Honors

Positions and Employment

1997 – 2000 CEO & founder, CPTronics (Electronics and Telecom company), Cuenca, Ecuador
1999 – 2001 Engineering Researcher & Lecturer, Universidad Politécnica Salesiana, Cuenca, Ecuador
2004 – 2005 Product and Service Development, IT & Services, AVAYA, Basking Ridge, NJ
2006 – 2008 Lead Product Manager, Data and Internet of Things, Telefónica, Quito, Ecuador
2008 – 2010 Strategic Manager, Wireless Broadband, Intel, Sao Paulo, Brazil
2012 User Experience Researcher Intern, Security Behavior Change, Google, Mountain View, CA
2013 PhD Research Intern, Affective Computing Technology, Microsoft Research, Redmond, WA
2016 – 2018 Postdoctoral Researcher, Stanford Computer Science, Palo Alto, CA
2018 – Present Instructor, Stanford School of Medicine, Palo Alto, CA

Other Experience and Professional Memberships

2015 Reviewer for the ACM Symposium on User Interface Software and Technology (UIST)
2016 Reviewer for the ACM Design of Interactive Systems (DIS)
2016 Reviewer for the ACM CHI Computing and Mental Health Workshop
2011, 2013-2016 Reviewer for the ACM CHI Work in Progress/Late Break
2016 Reviewer for the IEEE Transactions of Affective Computing Journal

2017 Reviewer for the ACII Tools and Algorithms for Mental Health and Wellbeing, Pain, and Distress Workshop

2017 Reviewer for the Journal of Positive Psychology

2017 Reviewer for the ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)

2013, 2016-2017 Reviewer for the ACM Conference on Human Factors and Computing Systems (CHI)

2017 Reviewer for the Journal of Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)

2016–2017 Reviewer for the Journal of Medical Internet Research (JMIR)

2017 PC Member for the Affective Computing and Intelligent Interfaces (ACII) Conference

2017 Associate Chair member for the “Understanding People: Theory, Concepts, Methods” subcommittee for the ACM Conference on Human Factors in Computing Systems (CHI 2018)

Member, Institute of Electrical and Electronics Engineers (IEEE)

Member, Association for Computing Machinery (ACM)

Member, Association for Behavioral and Cognitive Therapies (ABCT)

Member, Society of General Internal Medicine

Honors

2000 Universidad Politécnica Salesiana: Best Thesis Award

2001 Fulbright Scholarship

2003 MSc Minority Outstanding Student Awards, Georgia Institute of Technology

2004 MBA Minority Outstanding Student Awards, Georgia Institute of Technology

2010 Academic Excellence Award, UC Berkeley

2010 Best Project Award, HCI Fall 2010 class, UC Berkeley

2011 Qualcomm Innovation Fellowship Finalist (Stress Technology)

2015 Berkeley Institute Data Science fellowship winner

2017 CHI 2017 – Excellent Reviewer Badge

2017 Stanford Engineering Catalyst for Change second place

C. Contribution to Science

1. The development and evaluation of new technological approaches to passive sensing of stress.

Repurposing signals already existing in everyday technology to measure stress. Sensing stress in the wild requires proper efficacy but also engagement and adoption. The latter can hardly be obtained if the use of the sensor depends on the discipline and care of the user. We propose the creation of the foundations for sensing stress without the need to deploy any new sensors, or wearables, or the embedding or very simple “invisible” sensors in everyday computing & technology devices. Complementary, we start by looking at an untapped terrain, which is the use of movement and manipulation. We established a line of research that shows promise in the use of motion as a signal for mental changes. With this technology, billions PC mice, computer trackpads, smartphones and even the car can become ecologically valid sensors for stress.

- i. 3. Paredes, P., Ordoñez, F., Ju, W., Landay, J., Fast And Furious – Detecting Stress with a Car Steering Wheel, ACM Conference on Human Factors in Computing Systems (CHI 2018), Montreal, Canada, 2018. (in press)
- ii. Sun, D., Paredes, P., Canny, J., MouStress - Detecting Stress with Mouse Motions. ACM Conference on Human Factors in Computing Systems (CHI 2014), Toronto, Canada, 2014. <https://doi.org/10.1145/2556288.2557243>
- iii. Hernandez, J., Paredes, P., Roseway, A., Czerwinski, M., Under Pressure: Sensing Stress of Computer Users. ACM Conference on Human Factors in Computing Systems (CHI 2014), Toronto, Canada, 2014. <https://doi.org/10.1145/2556288.2557165>

2. The development and evaluation of opportunistic micro interventions for stress. Mental health technology wearables and apps suffer from an engagement and adoption problem. Even successful interventions lose power over time due to false expectations, forgetfulness or simply boredom. We propose the use of everyday devices or apps as subtle and short interventions for stress management. On one hand, we presented the first modification of a car seat to guide commuters to breath better or to move in mindful ways. For those walking, we modified urban lights to make them interactive, but to deliver illumination patterns that are soothing and energy efficient. On another hand, we created the first system where machine learning algorithms can recommend everyday popular apps as simple interventions. We establish with this a new line of research where popular devices and media can be repurposed to and use of non-obtrusive techniques.

- i. Paredes, P., Zhou, Y., Hamdan, N., Balters, S., Murnane, E., Ju, W., and Landay, J., Just Breath - Just Breathe: In-Car Interventions for Guided Slow Breathing, *Journal of Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*. 2018. (in press).
- ii. Paredes, P., Hamdan, N., Cai, C., Clark, D., Ju, W., and Landay, J., Evaluating In-Car Movements in the Design of Mindful Commute Interventions, *Journal of Medical Internet Research (JMIR)*. 2017. <http://dx.doi.org/10.2196/jmir.6983>
- iii. Paredes, P., Gilad-Bachrach, R., Roseway, A., Rowan, K., Czerwinski, M., PopTherapy: Coping with Stress through Pop Culture. 8th EAI International Conference on Pervasive , Computing for Healthcare (PervasiveHealth 2014), Oldenburg, Germany, 2014. <https://doi.org/10.4108/icst.pervasivehealth.2014.255070>
- iv. Paredes, P., Ko, R., Calle, E., Canny, J., Hartmann, B., Niemeyer, G., Fiat Lux: Efficient Wellbeing Interactive Urban Lights, *ACM Conference on Design of Interactive Systems (DIS 2016)*, Brisbane, Australia, 2016. <https://doi.org/10.1145/2901790.2901832>

3. Design of tools for early insight mining for qualitative exploration of social media. Given the difficulty to interview large amounts of participants in qualitative studies, we combine human expertise with AI to deliver semantic analysis of large-scale text social media databases. We created the first system that helps mine early (non-obvious) insights in difficult topics such as behavior change, stress management, health, etc.

- i. Paredes, et al. Inquire. *CSCW* 2017

Complete List of Published Work in PubMed: NA

D. Research Support

Ongoing Research Support

Catalyst for Change Stanford Engineering <i>Precise Mental States</i>	Bao (PI)	7/15/2017 – 4/15/2018
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The goal of this study is to investigate the creation of a skin-like wearable device that can monitor levels of Cortisol and other biometrics on an ongoing basis. We plan to generate evidence of correlations between physiological biomarkers and newly developed brain biotypes. We hope to generate a sensor that can effectively measure data over long periods of time to shed light on the science of precise mental health states.

Role: Postdoctoral Researcher

	Trochel (PI)	12/01/2017-12/01/2018
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Stanford Medical School: Health for Healers

With this small seed fund we plan to explore technology-based alternatives to reduce burnout in doctors. We plan to explore winding down techniques during the commute to improve sleep. Initial focus will be placed on relaxation and self-compassion techniques. The results of this project will be to propose and implement a proof-of-concept alternative and generate initial empirical data on the benefits and adoption of this new technology

Role: Postdoctoral Researcher

Renault Gift Landay (Co-PI) 3/01/2017-03/01/2018
Stanford Computer Science Department
Micro Therapeutic Chatbots for Stress Management
The goal is to develop a platform for the creation of micro chatbots that deliver specific techniques for stress management. This is a paradigm shift moving from the creation of a single complex and many times non-implementable chatbot, to a series of very specific chatbots. First, we plan to leverage prior knowledge on stress management and convert it to a rule-based chatbot. As we get more data, we will then focus on
Role: Postdoctoral Researcher / Co-PI

Toyota Gift Landay (Co-PI) 3/01/2017-3/01/2018
Stanford Computer Science Department
The Mindful Commute
The goal is to explore new technology and algorithms to transform the commute from a bug into a feature to use it to deliver daily wellbeing interventions. We have tested breathing interventions, movement interventions and currently we are developing conversational agents for commuters.
Role: Postdoctoral Researcher

Completed Research Support

Microsoft Gift Landay (Co-PI) 3/01/2016-3/01/2017
Stanford Computer Science Department
Wellbeing Technology Interventions
The goal is to develop a platform to administer and author novel interventions. We propose the use of machine learning online algorithms to optimize the adoption of interventions, as well as the use of the crowd as a source of new interventions.
Role: Postdoctoral Researcher

National Endowment for the Arts Niemeyer (Co-PI) 2/01/2016-2/01/2017
Berkely Institute of New Media
Urban Interactive Lights
The goal is to create a device to deliver engaging and soothing illumination patterns for urban lights. We established some preliminary research where we show the affective and energetic advantages of this technology and created several prototypes to illuminate the sidewalks in effective and engaging ways.
Role: Co-PI