Javier Tibau

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I research and design socio-technical systems through the lens of Human-Centered Design. With over a decade of experience teaching undergraduate and graduate students in Computer Science and Human-Computer Interaction, I am passionate about helping developers and stakeholders understand how users' and communities' needs meet technological opportunities.

Education

Ph.D. in Computer Science 2014 – 2019
Virginia Tech, Blacksburg, Virginia, USA

- **Dissertation:** Exploring and Promoting Family Connections at a Distance Through FamilySong
- **Coursework:** Research Methods in CS, Models and Theories of HCI, Service Design, Computer-Supported Cooperative Work, Designing for Change, Programming Languages, Research Through Design, Human Information Processing
- **Fulbright Scholar**

M.Sc. in Computing 2010 – 2011
Universitat Politècnica de Catalunya, Barcelona, Spain

- **Thesis:** Algorithms For a Multi-Projector CAVE System
- **Relevant Coursework:** Virtual and Augmented Reality, Advanced Data Structures for Computer Graphics
- **SENESCYT Scholarship:** Awarded by the Ecuadorian Government

B.Sc. in Computer Science 2003 – 2009
Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador

Experience

Associate Professor 2019 – 2024
Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador

- I conducted research in HCI using qualitative and mixed-methods approaches.
- I taught and designed the curricula for flipped-classroom courses in Programming (Python, Java, C++, others), Human-Computer Interaction (Storyboards, Wireframing, User Stories, Interviewing), and Game Design (Ideation, Game Mechanics, Playtesting).
- From 2020 to 2023, I was an elected-member of the Faculty of Electrical and Computer Engineering Council. This organism is presided by the Dean of the Faculty, and we oversaw administrative and academic decisions that governed 5 undergraduate programs, 2 masters programs, and 2 doctoral programs. We provided guidance in the transition to more online programs during the pandemic, as well as more active flipped-classroom methodologies to address the challenges our learning community was facing.

Ph.D. Candidate in Computer Science 2014 – 2019
Virginia Tech, Blacksburg, Virginia, USA

- For the duration of this program I was a Graduate Teaching Assistant for "Computational Thinking", an introductory programming class for non-CS majors. I collaborated in designing and creating class materials, evaluating and grading students. I became an instructor of record for this class in 2019.
- In my dissertation, I collaborated with programmers, designers and artists to pursue a vision for socio-technical experiences that satisfy human needs and respect human values.
- I have a broad prototyping skillset using story-boarding, 3D printing, woodworking, electronics, programming of micro-controllers, single board computers, domotics, and home automation, as well as full-stack web development and container orchestration.
- I created multi-location synchronized music-listening devices: bespoke wooden speakers with an NFC-based UI for choosing music. These facilitated opportunities and experiences to connect families at a distance.
- I built a prototype for transmitting spatial audio in videocalls using a DoubleRobotics Duo Robot, a Sennheiser

Ambeo VR microphone system, MaxMSP and Audinate Dante. The system was tested using a 5.1 audio system and state of the art multi-speaker arrays at VT's Institute for Creativity, Arts, and Technology (ICAT).

Assistant Professor 2011 – 2014

Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador

- As I joined the Computer Science Department, I was in charge of scoping and purchasing equipment for a Virtual and Augmented Reality laboratory. These efforts were funded by the university with matching funds by the Ecuadorian government, I coordinated the spending of $200.000, which were used to create a multi-projector power-wall, motion-capture environments, and augmented reality. The laboratory was later expanded in 2016 to include rapid-prototyping, and 3D printing.
- In 2012, our department pursued Ecuador's first International Accreditation of an undergraduate program. I was a co-lead in organizing the CS program to achieve ABET accreditation with glowing remarks. The program has maintained its accreditation since, and has also obtained an EUR-ACE accreditation in 2023.

Research Assistant 2010 – 2011

Universitat Politècnica de Catalunya, Barcelona, Spain

- I developed software libraries that provide programmers with flexible ways to deploy applications in CAVEs, HMDs, and other Virtual Environment technologies.

Service

Reviewer for ACM SIGCHI Conferences: CHI conference on Human Factors in Computing Systems, Conference on Computer-Supported Cooperative Work and Social Computing, Conference on Designing Interactive Systems. 2016-2024

Collaborator: Virginia Tech's chapter of the Association for Women in Computing 2015-2019

Publications

Gonzalo Gabriel Méndez, Katherine Chiluiza, **Javier Tibau**, Vanessa Ines Cedeno-Mieles, Oscar Moreno, Miguel Murillo, and Marisol Wong-Villacres. 2022. *Exploring Open Parliament Initiatives in Ecuador Through Technology*. In Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems (CHI EA '22). ACM.

Marisol Wong-Villacres, Adriana Alvarado Garcia, and **Javier Tibau**. 2020. *Reflections from the Classroom and Beyond: Imagining a Decolonized HCI Education*. In Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20). ACM.

Vanessa Cedeno-Mieles, **Javier Tibau**, Chris J. Kuhlman, Deborah Tatar, and Steve Harrison. 2020. *Data Analysis on a Domestic Media Space Connecting Internationally Distributed Families*. In Proceedings of the 2020 International Conference on Information and Communication Technologies and Development (ICTD '20). ACM.

Javier Tibau, Michael Stewart, Steve Harrison, and Deborah Tatar. 2019. *FamilySong: Designing to Enable Music for Connection and Culture in Internationally Distributed Families*. In Proceedings of the 2019 on Designing Interactive Systems Conference (DIS '19). ACM.

Javier Tibau, Michael Stewart, Steve Harrison, and Deborah Tatar. 2019. *FamilySong: A Design for Managing Synchronous Intergenerational Remote Music Sharing*. In Companion Publication of the 2019 on Designing Interactive Systems Conference 2019 Companion (DIS '19 Companion). ACM.

Aakash Gautam, Michael Stewart, Chandani Shrestha, **Javier Tibau**, Steve Harrison, and Deborah Tatar. 2019. *Designing to Reflect Our Better Nature*. In Companion Publication of the 2019 on Designing Interactive Systems Conference 2019 Companion (DIS '19 Companion). ACM.

Ausin Cory Bart, **Javier Tibau**, Eli Tilevich, Cliff Shaffer, and Dennis Kafura. 2017. *BlockPy: An Open Access Data-Science Environment for Introductory Programmers*. In Computer. IEEE.

Ausin Cory Bart, **Javier Tibau**, Dennis Kafura, Eli Tilevich, and Cliff Shaffer. 2017. *Design and Evaluation of a Block-based Environment with a Data Science Context*. In IEEE Transactions on Emerging Topics in Computing. IEEE.

Ausin Cory Bart, **Javier Tibau**, Eli Tilevich, Cliff Shaffer, and Dennis Kafura. 2016. *Implementing an Open-access, Data Science Programming Environment for Learners*. In International Conference on Computers, Software, and Applications (COMPSAC '16). IEEE.

Courses Taught

Undergraduate Courses for CS Majors, at Escuela Superior Politécnica del Litoral

First Year Courses:

- CCPG 1043 Programming Fundamentals
- CCPG 1052 Object-Oriented Programming

Second Year Courses:

- CCPG 1034 Data Structures and Algorithms
- CCPG 1046 Human-Computer Interaction
- CCPG 1049 Organization

Third Year Courses:

- SOFG 1008 Programming Languages

Fourth Year Courses:

- CCPG 1040 Video-Game Development
- CCPG 1035 Capstone Course
- Special Topic: Virtual and Augmented Reality

Undergraduate Course for non-CS Majors, at Virginia Tech

- CS 1014: Intro to Computational Thinking

Graduate Courses, at Escuela Superior Politécnica del Litoral

- (Masters in Management Information Systems) Applied Research Methods
- (M.Sc. in Computer Science) Programming Languages

Skills

Methodologies: Interaction Design, Human-Centered Design, Qualitative Analysis, Mixed-Methods Research, Active-Learning

Prototyping Methods and Technologies: Single Board Computers, Microcontrollers, Electronics, 3D Modelling & 3D Printing, Linux Administration, Cloud Computing, Wooodworking

Programming Languages: C/C++, Java, Javascript, PROLOG, Python, Racket