Sebastian Rodriguez, PhD

Software Engineering / Research

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EDUCATION

University of Illinois at Urbana-Champaign
PhD Computer Science | 2016 – 2022

Northwestern University
BS Computer Engineering | 2012 – 2016

SKILLS

Programming
C#, Unity, Oculus XR
Python, pandas/NumPy, Selenium
C++, PHP, Java
JavaScript, Node.js, React.js
R, SQL, Hive, Presto
git, Mercurial, CI/CD
AWS, BASH/Unix

Research
Machine learning/engineering
Inferential/summary statistics
Experiment design (traditional/AB)
Factor analysis/pathway modeling
User modeling
Scientific writing

Languages
English – native
Spanish – native

PROJECTS

RemoteLab
github.com/microsoft/Remote-Lab
Unity OSS library to support remote XR user studies

Chromatone
youtu.be/-SmzZ0YtzQc
VR app to visualize and manipulate music stems

TIDALsign
youtu.be/j-NQ40gS5eM
Arduino flex-sensory haptic glove to teach ASL

Aurora
github.com/antonpup/Aurora
C# OSS, synchronizes RGB lighting across devices

EXPERIENCE

Meta – Analytics Engineer
Remote | Aug 2022 – Present

- Collaborated with cross-functional stakeholders to develop product roadmaps in Meta's privacy infrastructure, driving procedural innovations and optimizations
- Developed scalable pipelines and automated workflows to analyze petabytes of data for inference and modeling, introducing novel metrics for internal infrastructure supporting privacy **(Python, SQL, CI/CD)**
- Built internal management tools to support GDPR compliance and facilitate responsible data handling practices, eliminating a total of 15 years of non-compliant internal assets **(Python, PHP)**

Meta – Quantitative UX Researcher Intern
Remote | Jun 2021 – Aug 2021

- Identified key user-level dimensions for new Messenger features through survey responses and log data analysis across user strata
- Wrote internal pipelines to data wrangle, conduct summary analyses, build user models, and produce visualizations from survey responses and internal databases **(Python, SQL)**
- Collaboratively designed and implemented an award-winning XR project for an internal hackathon **(Unity, C#)**

U.S. Army Research Laboratory – Research Fellow
Aberdeen, Maryland | Aug 2018 – Dec 2020

- Designed an interactive simulation **(Unity, C#)** for AI pursuit tasks (e.g., predator-prey) to operationalize and validate autonomous UAV behavior and performance
- Implemented IPC between the environment and local machine learning instances to drive AI behavior through deep reinforcement learning for training and testing **(Python)**
- Built analytics pipelines and structural equation models on 200+ participants to determine patterns of trust and team performance with deep learning agents **(Python, R)**

U.S. Army Research Laboratory – Research Engineer Intern
Playa Vista, California | May 2018 – Aug 2018

- Designed an interactive experience to investigate how anthropomorphism and reliability affects adherence in humans interacting with recommender systems **(Unity, C#)**
- Built analytics pipelines and structural equation models on 1000+ participants to study domain knowledge in non-experts interacting with recommender systems **(Python, R)**

Univ. of Ill. at Urbana-Champaign – Research Assistant
Urbana, Illinois | Aug 2016 – May 2018

- Designed and maintained an API for devices requesting control of multiple locally synchronized UAVs **(Python)**
- Developed a sample Android application to demonstrate API use, and presented the proof of concept to 70+ researchers and associates **(Java)**

Portfolio and research publications found at **sebas.me**