NICHOLAS ARNER

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Skills

Development languages: Swift, Objective-C, C/C++, Python
Creative coding and prototyping: Max/MSP, Pure Data, Wekinator, OpenFrameworks, Processing, Arduino, RaspberryPi, Quartz Composer, Fritzing, Sketch

Specialities & Interests

native macOS and iOS development, human-computer interaction research, gestural interface design, product design and development, circuit prototyping, interactive machine learning, augmented reality

Experience & Projects

HUMAN-MACHINE INTERFACE ENGINEER, ASTEROID TECHNOLOGIES – NOVEMBER 2017 - MAY 2019
While at Asteroid, I worked to develop a macOS app for building ARKit interactions that are ready to run on iOS devices. I also researched and prototyped AR-focused features and experiments around a variety of modalities, including audio and voice, haptics, gestures, and controllers.

SELECTED ALPHA DEVELOPER, GOOGLE PROJECT SOLI; REMOTE/MOUNTAIN VIEW – OCTOBER 2015 - 2018
I was one of 80 developers worldwide to be accepted into Google ATAP's Project Soli Alpha Developer Project, and was one of 14 developers to be invited to Google HQ to workshop Soli use cases. My work focused on creating instruments using new musical instruments. Work published in NIME 2017 Proceedings.

ASSOCIATE CONSULTANT, WORKSTATE CONSULTING; COLUMBUS, OHIO – FEBRUARY 2016 - AUGUST 2017
I am the lead or co-lead developer on mobile app development projects. I've also conducted IoT and big data research for some of our internal projects.
SportsLine by CBS Interactive: Lead developer; worked closely with designers and external stakeholders
Currently working on: Developing an iPad Pro-based kiosk app in Swift for a gov't planning agency

CORE CONTRIBUTOR, AUDIOKIT; REMOTE – AUGUST 2014 - OCTOBER 2016
I was a core contributor of AudioKit, an open-source audio analysis, synthesis, and processing toolkit for iOS and OS X apps. My contributions include operation defaults, presets, tests, and can be viewed on my GitHub.

DEVELOPER AND CO-CREATOR, DELAY TRACKER; REMOTE – NOVEMBER 2014 - PRESENT
The Delay Tracker app allows intercity rail passengers to report train delays to the Federal Rail Administration. Co-designed in partnership with High Speed Rail USA and developed in Objective-C. More info found here.

IOS/OS X DEVELOPER, SQUIRRELS LLC; NORTH CANTON, OHIO – JANUARY 2015 - JANUARY 2016
The core product I worked on was Reflector, a wireless mirroring and streaming receiver for iOS/Android.
Reflector Student: Co-developed in Swift from the ground up, from prototype to launch

RESEARCHER/DESIGNER, AIRMARKR; REMOTE – 2014
Researcher in gestural interfaces for an early mobile augmented reality startup for movement-based drawing applications.

RESEARCH INTERN, FRAUNHOFER IIS; ERLANGEN, GERMANY – OCTOBER 2013 - DECEMBER 2013
Conducted research on human heart sonification using mobile devices.

Education

MSc Research in Music Technology, 2014 | University of York (York, UK)
Thesis: Investigating the use of multi-touch gestures in music interaction
Audio Technology Work-Study, 2012 | The Banff Center (Banff, Canada)
BA Music Technology, 2012 | Capital University (Columbus, Ohio)