Dylan K. Garrett

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WORK EXPERIENCE	**Microsoft**, Redmond, WA

Microsoft, Redmond, WA

Senior Software Engineer - Azure Sphere HAL Peripherals — *Sep 2019 - Present*

Software Engineer II - Azure Sphere HAL Peripherals — *Oct 2018 - Sep 2019*

- NXP i.MX 8ULP-CS Bringup
  - Delivered secure Dynamic Voltage/Frequency Scaling (DVFS) and new network-based development experience, driving consensus across HAL, Kernel, OS, and tooling teams
  - Provided technical leadership on HAL Peripherals team through design reviews

- Azure Sphere Hardware Abstraction Layer (HAL) v2
  - Designed key components of Azure Sphere's new Hardware Abstraction Layer, including device tree based hardware description and HAL event pattern
  - Designed several HAL v2 driver models for secure enclave firmware and TrustZone Security Monitor. Included cryptography, secure boot, and firewall models, as well as new flash access patterns to remove dependency on eXecute In Place (XIP) flash
  - Implemented Linux hardware peripheral drivers and extended kernel systems to support our constrained environment

Software Engineer II - Xbox PC Experiences — *Jan 2018 - Oct 2018*

- New Windows Game Bar
  - Built infrastructure in Game Bar Universal Windows Platform (UWP) app and Windows systems supporting our unique shell experience
  - Contributed to Windows Store updatability of the overlay shell experience, unlocking greater ship agility and enabling upcoming strategic PC experience plans

Software Engineer II - Xbox Vector Core SDK — *Mar 2016 - Jan 2018*

- Mixer Interactive - Share Controller
  - Owner of Xbox console plug-in for Mixer Interactive Controller Sharing
  - Designed feature to work with all Xbox games, leading to over 800% increase of daily active users of Mixer Interactive platform within one month of feature launch

- Native Mixer Streaming on Xbox One
  - Owner of Mixer Streaming plug-in on Xbox. Contributed to Xbox video capture system service and Xbox Guide integration
  - This platform-integrated experience led to rapid increase in Mixer streaming hours. Mixer content was predominantly produced using the Xbox native Mixer experience
  - Wrote Android prototype of Mixer streaming, leading to Mixer Create app

Software Engineer I - Xbox Vesper Platform — *Aug 2014 - Mar 2016*

- Xbox One In-Home Game Streaming to Windows 10
  - Developed first end-to-end prototype of in-home streaming of Xbox games
  - Worked on Windows system service, network protocols, hardware encoder device driver latency improvements, and Windows 10 UWP client library

PATENTS

Low-Latency Mobile Device Audiovisual Streaming (Microsoft) — *2019*

Control Sharing for Interactive Experience (Microsoft) — *(Pending) 2018*

PERSONAL PROJECTS

Score Tracker Apple Watch App — *2020*

birb. (Gameboy Game for Ludum Dare 45 Game Jam) — *2019*

Pocket Article E-Paper Reader — *2018*

Low-power Wearable Audio Necklace PCB — *2018*

Keeb (Custom mini keyboard PCB) — *2018*

EDUCATION

Georgia Institute of Technology, Atlanta, GA — *Grad. May 2014*

B.S. Computer Science (Specializations: Devices, Platforms; Minor: Computing & Business)

PROGRAMMING SKILLS

Proficient: C++ (Modern C++ and C++/CX), C, Python

Previous experience: C#, Java, Ruby, Swift, JavaScript, TypeScript, VHDL

Platforms: Linux, Windows, Xbox One, iOS