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### Experience

- 2023-2025 **Staff Software Engineer (L6)**, *Google*, Cambridge, MA, Android OS software engineer on the Android Wallet Integration team. Highlights include: implemented the reference HCE implementation of the Aliro access protocol (now in use with Google Wallet), designed a NFC ground-truthing and field testing program to deep-dive into problematic NFC readers, improved the Android NFC stack test suites (CTS, CTS-V, VTS).
- 2021-2023 **Staff Software Engineer**, *Grubhub*, Boston, MA  
Android engineer the Frontend Platform libraries team. Focusing on writing easy-to-use libraries for internal development teams. Acting as an Android ecosystem steward across the company, encouraging best-practices, and adopting new techniques.
- 2020-2021 **Media & Hardware Engineer**, *Grubhub*, Boston, MA  
Special projects: designed (visual, mechanical, electrical), engineered (mechanical, electrical, software), and fabricated a custom LED-based wall-scale art installation that was installed in the elevator lobby of the Boston office. Collaborating with a team of artists, engineered (mechanical, electrical) and fabricated a second large (9m×2.5m) LED-based art installation for a different floor's elevator lobby.
- 2015-2020 **Embedded Systems Engineer**, *LevelUp*, Boston, MA  
Team lead for Hardware team: migrated from a hand-rolled Linux distribution to Yocto. Streamlined the LevelUp Scanner product to make warehousing, deployment, and integration simpler and improve reliability. Wrote kernel-level optimizations of camera driver to improve scanning performance. Developed and maintained standalone Android merchant payment device custom Android ROM & mobile app.
- 2013-2015 **Senior Software Engineer**, *LevelUp*, Boston, MA  
Developed Android application software, focusing on internal SDK design and development.
- 2007-2013 **Systems Designer & Lead Mobile Developer**, *MIT Mobile Experience Lab*, Cambridge, MA  
Lead the development of and participated in the design of numerous projects. Functioned as lead developer for most of their implementations. Duties in projects mostly centered around Android app development, but also included concept development, on-site technical assistance, UI design, technology research and consulting, photography, embedded programming, and hardware prototyping.  
Designed and developed an Android-based mobile application framework for creating location-based media apps; implemented a number of apps using this framework. Designed and developed Android-based libraries to modularize some parts the above framework.

- 2007–2008 **Systems Programmer, MIT Media Lab, Cambridge, MA**  
Technical lead for main website redesign. This was implemented using a popular free software CMS. Developed pluggable modules to support content synchronization with internal databases. Designed and developed tool for creating content-managed, stylized masthead graphics.  
Designed and developed a web-based access control and management tool for student SVN repositories to facilitate collaboration with external sponsors. Co-designed and developed a web-based discussion forum intended to meet the needs of the Media Lab community.

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## Education

- 2000–2005 **Bachelor of Science, Rochester Institute of Technology, Rochester, NY**  
Received a Bachelors of Science in Computer Science from the Rochester Institute of Technology. Concentrated in computer security, computer language construction, Japanese, and psychology.

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## Computer Skills

*Technology (years of experience)*

- Languages Kotlin (3), JAVA (21), Python (15), C++ for AVR microcontrollers (10), Javascript (10), C++ (12)
- Platforms Android (14), Arduino (9), Django (5), Yocto (5)
- Systems Debian GNU/Linux (24), Redhat GNU/Linux (2)
- Administration
- Web HTML/CSS (17), RESTful architecture (12)

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## Personal Projects

- Firefly Nightlight Designed and fabricated a battery-powered nightlight. Custom PCB design (batteries last 2 years with normal use), housing design, & fabrication.
- Repositories staticfree.info on Google Play, staticfree.info, github.com/xxv
- Android Units Designed and developed an Android version of the classic GNU Units application. The app has had over 100k+ user installs on Google Play.
- Android robotfindskitten Developed a version of robotfindskitten for Android. The app has had around 20k user installs.

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## Interests

- Technical open source/free software (primarily self-published software mentioned above and have contributed patches to various projects). Internet standards, implementing and designing communication protocols, computer languages, cryptography, microcontrollers
- Art light and installation art, lasercutting, 3D printing, music production, contemporary art