Baran Usluel

baran@gatech.edu | 678 671 9898 | US Citizen
LinkedIn.com/in/baranusluel/ | Github.com/baranusluel

Address:
350 Ferst Drive
330521 Georgia Tech Station
Atlanta, GA 30332-1330

Objective

Software developer and candidate for BS in Electrical Engineering with 1 year of experience working on production software. Technical skills include proficiency in Java, C++ and Python, and familiarity with the ML libraries Pytorch and scikit-learn. Desire to work on innovative software for cutting-edge hardware platforms, specifically in the fields of robotics and autonomous vehicles, utilizing my cross-disciplinary knowledge of the hardware and software stack.

Education

Georgia Institute of Technology | Atlanta, GA   *Aug 2017 – Dec 2021 (Expected)*
- Bachelor of Science in Electrical Engineering, with minor in Computer Science (Artificial Intelligence concentration).
- GPA: 4.00

Skills

Programming:	Java, C++, Python, MATLAB, C, PHP, Javascript, VHDL, MIPS Assembly.
Platforms & Tools:	Linux, Android, AOSP, OpenCV, OpenGL, OpenSL, PyTorch, Scikit-Learn, Git, SQL.
Design & Simulation:	NI Multisim, LTspice, ModelSim, Quartus II, Eagle CAD, SolidWorks, OpenSCAD.
Languages:	English (fluent), Turkish (native), Spanish (elementary).
Clubs:	Chamber Choir, RoboJackets (Intelligent Ground Vehicle Competition, Electrical Team), Wreck Racing, IEEE.
Certifications:	American Red Cross First Aid/CPR/AED, PADI Open Water Scuba Diver (in progress).

Experience

Facebook | Menlo Park, CA   *May 2019 – July 2019*
Software Engineer Intern
- Developed a novel automated audio test framework with Java (JNI) and C++ for AOSP-based standalone Oculus VR devices.
- Leveraged OpenSL ES and other available audio APIs to capture and process raw audio with various sampling formats.
- Implemented telemetry, bug reporting and automation framework integrations. Rolled out to OS and QA engineers.
- Performed bring-up of a system service, assisted in developing a new AOSP HAL and implemented the first E2E tests for an innovative, high-impact audio feature.
- Enhanced the OS bug reporter used by VR device testers with the ability to attach relevant multimedia files.

Qualcomm | San Diego, CA   *May 2018 – August 2018*
Software Engineer Intern
- Developed an Android app with Java for display software testing, which ran 400+ existing Lua tests and 100+ new tests.
- Increased speed of developer-level tests 2.5x, resulting in active use by 30+ display software developers.
- Implemented 2D, 3D and VR graphics tests with natural and generated content using OpenGL ES (GLES) and EGL.
- Added automated test validation, telemetry and automation integrations, and an encryption protocol for sensitive content.

Georgia Institute of Technology | Atlanta, GA   *Jan 2018 – Dec 2019*
Undergraduate Teaching Assistant
- Taught Engineering Computation with MATLAB to 200 students personally over four semesters.
- Created an automatic homework grader suite as the Lead Developer of an agile software development team with 8 TAs.
- Orchestrated efforts to redesign the course website using React, as a Senior Developer on the software development team.
- Enabled the course's migration to a new CMS by developing a critical data conversion utility in MATLAB.

ADD PR Design | Ankara, Turkey   *Dec 2014 – Mar 2017*
Web Developer
- Developed and maintained static and dynamic websites for 3 company clients, to establish their online presences.
- Designed responsive themes for WordPress CMS with PHP, HTML, CSS, and Javascript.

Freelance Software Development | Ankara, Turkey   *Jan 2013 – Jan 2016*
Java Developer
- Built plugins for commercial, multi-player game servers using Java and the Bukkit API to add new gameplay functionality.
- Wrote 100+ Java plugins (25,000+ lines) in total, for clients and as open-source projects (one with 750,000 downloads).

Relevant Coursework

Deep Learning *(In Progress):* Neural networks, convolutional NNs (CNN), recurrent NNs (RNN), deep reinforcement learning (RL), generative adversarial networks (GAN), variational autoencoders (VAE).
Robotics & Perception *(In Progress):* Robot control, navigation & localization (SLAM), sensor fusion, path planning, kinematics.
Machine Learning *(In Progress):* Unsupervised learning, supervised learning, linear models, tree-based models, neural networks.
Computer Vision: Feature matching, depth from stereo, structure from motion, image classification, object detection, segmentation.
Advanced Programming Techniques: Multi-threading, OpenMP, message passing interface (MPI), IPC, sockets, OpenGL.
Cryptographic Hardware for Embedded Systems: Cryptography, authentication, differential power analysis, hardware trojans.
Programming HW/SW Systems: C programming, MIPS assembly, embedded systems, memory management.

Projects & Activities

HackMobile | Qualcomm Intern Hackathon   *Jul 2018*
- Led a team making an IoT facial-recognition system. Awarded 'Most Innovative Hack' and 'Top 10 Best Hack' from 60 teams.
- Leveraged Python and OpenCV for facial detection, with Microsoft's Face API for recognition, on a DragonBoard 410c.

2048 3D | Mobile and web game   *Jan 2018*
- Developed a fully 3D version of the popular 2048 game using Unity and C#, for web and Android (Google Play) devices.

HackGT | Georgia Tech Hackathon   *Oct 2017*
- Designed a stock portfolio visualizer for virtual reality (Oculus Rift) using Unity, C#, Python and a financial API.

Operation Catapult | Summer Program at Rose-Hulman Institute of Technology   *Jul 2016*
- Led a team of 4 to build a robot that catches balls in the air. Awarded 1st place for 'Best Project' out of 40 teams.
- Implemented stereo vision software with C++ and OpenCV, built control circuit and assisted with mechanical design.

BaranBOT | Custom 3D Printer   *Sep 2016 – Aug 2017*
- Designed and built a 3D printer with an XY gantry, independently controllable dual extruders and large build volume.