

KELLY COLE

Engineer, lifelong student & technical lead in the making.

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EXPERIENCE

- 8/2019 - Present
Dearborn, MI **Ford Motor Company**, GSR6 Product Development Embedded Software Engineer
Added responsibilities and involvements:
- Cross functional work with other sub-feature teams. Conducted GDB core dump, PCAP and CAN bus analysis (using CANoe) to debug inter-ECU defects. Direct communication with third-party partners to debug library and server issues on bench and in-vehicle.
 - Contributions to service architecture design (UML). Technical writing and trainings sessions held.
 - Delivered IP radio and cloud connectivity vehicle features, supporting 8+ vehicle programs to date
 - Familiar with IPC techniques like shared memory, message queues (ie. MQTT, D-BUS, etc)
 - Developed a custom GUI-based test utility to send CAN messages to SYNC hardware to support developers on native linux machines for which no equivalent existed.
 - Bash and python scripting to automate workflow.
 - Spark Project, worked on a three member team porting SYNC hardware to Linux OS for proof-of-concept project that if fully implemented would save Ford millions of dollars in royalty and service fees.
- 1/2017 - 8/2019
Dearborn, MI **Ford Motor Company**, GSR5 Product Development Embedded Software Engineer
Developed Platform & HMI software for Ford's QNX based infotainment system (SYNC). Implemented HMI screen flows and supporting backend features in QML/JS/C++ on an agile scrum team under intense delivery deadlines. Delivered SAT radio features, implementing a USB SiriusXM X40 firmware updater.
- 5/2015 - 8/2016
Champaign, IL **IL Digital Ecologies Research and Learning Lab**, Software Developer
Set up technical demos for the launch of a \$600,000 lab made to research collaborative interaction in digital ecologies at the College of Education. Developing multi-touch software under the direction of Assistant Professor Emma Mercier.
- 6/2008 - Present
Chicago, IL **SATCO, INC**, Contractor
Reviewed technical drawings and strategic planning with leading boiler manufacturer Babcock and Wilcox. Improved sales through customer engagement over the phone. Provided IT support, setup an NAS backup server. Built a web application for business analytics to provide data-backed insight on daily operations to highlight areas of growth.
- 5/2015 - 8/2015
Champaign, IL **AMDOCS**, Technical and Business Operations Agent
Developed software using JDeveloper that provides information necessary to ensure high availability on company servers.

PROJECTS

Sunrise Simulation Clock

Built a 120VAC robot-figured sunrise simulation alarm clock/lamp with companion iOS app. Step down ACDC power converter with ESP12S Wi-Fi enabled microcontroller. Google assistant integration via self hosted HTTPS web server.

Open Destination Vacation Planner

Flask based web application which scraped flight data daily to construct a database to help clients book and filter through flights between selected dates, based on desired country or continent.

StarterOS System

Prototype made to teach students about real time operating systems and low level development (I2C, Drivers, GPIO interaction) using STM32F407 ARM development board. Familiar with reading data sheets/schematics, UDP protocol used for the Qt PC client.

3D printed split flap clock team of 2

Three step motors with Wi-Fi enabled RPiZero. Wrote software to calibrate based on current flap state and synchronize clock with NTP server on boot.

Senior Design Project team of 3

Designed and built a Bluetooth enabled ingredient printer for experimental bakers. Was responsible for the mobile application and bluetooth communication and interaction with microcontroller to control dispense.

Quadcopter PID Control

Improved Z-axis PID control with integration of a laser range finder to complement existing gyroscope, accelerometer and barometer data.

EDUCATION

University of Michigan, Dearborn

MS - Computer Science, System Software
GPA: 3.80

University of Illinois, Urbana-Champaign

BS - Computer Engineering

SKILLS

C/C++, Python, Shell scripting, QML/Qt, TCP/IP, QNX, Linux, Static Analysis, SQL, Github, Jira, Agile, Audio/Radio/SXM, SOA, Embedded OS, Design Patterns, Pattern Recognition, SOLID Design Principles