

# ELLIAS PALCU

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FULL-STACK DEVELOPER | EMBEDDED SOFTWARE ENGINEER | WEB-BASED APPLICATION DEVELOPER

Software professional versed in a variety of software engineering forms: embedded software, web-based application engineering, and consultation. Experienced in leading software projects and implementing enterprise-level software solutions in the areas of big data, data analytics/visualization, security, and automation. Full-stack expert, proven in taking software projects from start to finish and understanding all facets of development process: documentation, testing, user experience, database administration, quality assurance, and security. Skilled as a client-facing liaison, capable of navigating through technical requirements while understanding customer needs. Proficient in a multitude of programming languages, operating systems, design architectures, and cloud-based technology.

## TECHNICAL COMPETENCIES

- |                            |                              |                             |                    |
|----------------------------|------------------------------|-----------------------------|--------------------|
| ❖ REST APIs                | ❖ Unix/Linux/Mac OS/Windows  | ❖ Full-Stack Development    | ❖ Microcontrollers |
| ❖ Automation, Scripting    | ❖ Hardware Testing           | ❖ Business Intelligence     | ❖ Algorithms       |
| ❖ Unit, Regression Testing | ❖ Embedded Software          | ❖ Consulting, Client-Facing | ❖ Object-Oriented  |
| ❖ Debugging, JTAG          | ❖ Version Control (Git, SVN) | ❖ AWS, Azure                | ❖ MVC              |
| ❖ Troubleshooting          | ❖ Software Design            | ❖ Project Leading           | ❖ IOT              |
| ❖ Test Engineering         | ❖ Documentation              | ❖ Machine Learning          | ❖ UI/UX            |
| ❖ Parallel Programming     | ❖ RTOS                       | ❖ Data Mining               | ❖ Data Structures  |

## EXPERIENCE

### INSTRUMENT ENGINEER, TVA; KNOXVILLE, TN

NOV 2017-PRESENT

- ❖ Software specialist in group responsible for developing and maintaining control and embedded software for the nuclear siren system across TVA.
- ❖ Administrator of version control practices for TVA's IES group.
- ❖ Lead application developer integrating full-stack software engineering solutions with modern cloud-based technologies.
- ❖ **TVA ANS Siren System**
  - Software specialist responsible for developing and maintaining control and embedded software for TVA's nuclear sirens.
  - Interface and consult with clients on hardware and software design requirements.
  - Hardware/Software test and debug dysfunctional and newly fabricated boards.
  - Develop DOM sheets for new hardware parts per design changes.
- ❖ **Field Reports App**
  - Application, utilized by IES, to record job-specific details and house project documentation.
  - Data analytics to visualize man hours, report hours, number of reports throughout any given month/year.
  - System description:
    - Front-end: HTML, CSS, JavaScript, Ajax, Bootstrap 3
    - Web Framework: Flask
    - Back-end: MySQL, SQLAlchemy
    - Hosting Service: Azure

### EMBEDDED SOFTWARE ENGINEER, EATON; KNOXVILLE, TN

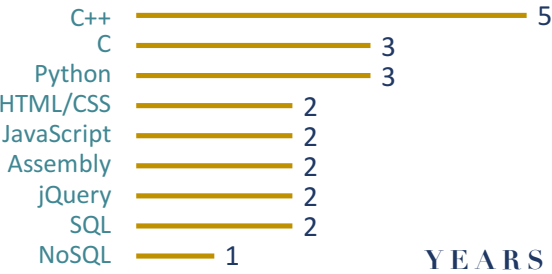
SEP 2016-NOV 2017

- ❖ Involved in and lead many IOT product development projects (NDA) pertaining to event-driven firmware development, REST API routing, web-based application development, Python test engineering, and NoSQL database administration.
- ❖ **EV-EMCB**
  - Lead test engineer and firmware engineer.
  - Energy management circuit breaker capable of providing power consumption data, remote control of breaker functionality to reduce usage costs, and electric vehicle charging capabilities.
  - Project in a failing state for **three** years:
    - Inherited at passing 16% (false-positive), and revived project to production at ~99% passing.
    - Now utilized across many utility companies across the United States, such TVA, Duke Energy, and Tesla.

- ❖ Software specialist in TVA's IES group.
- ❖ Consulted customers on optimal networking, automation, and data acquisition techniques.
- ❖ **Instrumentation Projects**
  - Programmed and co-authored all instrumentation and documentation for TVA's \$450 million Boone Dam Repair project.
  - Lead engineer in TVA's \$300,000 initiative in reprogramming all instrumentation across the Tennessee Valley.
  - Designer of Chickamauga Dam's cost-efficient networking and data acquisition scheme.

- ❖ Internship exposure to data mining, machine learning, and research reporting/documentation.
- ❖ **Titan Supercomputer Failure Prediction Analysis**
  - Goal: To successfully predict when and where a failure event will occur within system to avoid unnecessary checkpointing.
  - Data Mining: Python
  - Machine Learning: Python, Sci-Kit Learn, classification/supervised learning algorithms.

LANGUAGES



YEARS

EDUCATION

**MS, Computer Engineering — 3.94 GPA**  
University of Tennessee, Knoxville  
01/2017 - 12/2017

**BS, Computer Engineering — 3.45 GPA**  
University of Tennessee, Knoxville  
08/2012 - 12/2016

LINKEDIN

<http://www.linkedin.com/in/ellias-palcu-64841aa4/>

PERSONAL WEBSITE

<http://www.aws.epalcu.net>

GITHUB

<http://www.github.com/epalcu>