Emily Hoch

CAREER

Grantek Systems Integration — Allentown, PA

- **Systems Engineer** — **May 2016 – Feb 2017**
  - Writing ladder logic for programmable logic controllers (PLCs) to communicate with varied field devices and data acquisition systems
  - Designing Human-Machine Interface screens that integrate with PLCs
  - Performing on-site commissioning of hardware and software
  - Working with diverse client personnel to implement their needs via machine controls
  - Broad & ongoing scope of learning: networks, SCADA, communications protocols, manufacturing processes & machinery, legacy tech

EDUCATION

Kutztown University — Kutztown, PA

- **B.S., Computer Science – Software Development** — **May 2016**
  - GPA 3.4
- **B.A., English – Professional Writing** — **December 2005**
  - Minor: Speech Communication
  - GPA 3.6, Magna Cum Laude

PROJECTS / TECHNICAL EXPERIENCE

Solar Energy Generation Facility Programming — **Nov 2016 – Feb 2017**

- Integrating SCADA hardware and software for 3 new project sites
- Programming & mapping data acquisition from field devices, through Modbus protocol modules, to the PLC, and from there onward to remote and local monitoring stations
- Building new local HMIs from universal templates for both remote/local monitoring
- Documenting acceptance-testing procedures for new sites; creating new test procedures to verify existing sites after upgrade

Controller Replacement, Food Manufacturing Plant — **May 2016 – Nov 2016**

- Translating & adapting logic from a 25+ year old sequential-function-chart program into ladder logic for a contemporary processor
- Recreating the HMI from scratch for a new set of touch-screen panels, working on site with employees to adapt screens as necessary for improved operator and supervisory controls
- Installing, removing, and configuring hardware to work within the plant's existing network infrastructure

Research Experience — **Summer 2015 – Spring 2016**

- Student Research Assistant, Data Sonification and Visualization, Dr. Dale Parson. Learning about data processing with Weka, Parallel Coordinates software for visualization, working in an established codebase in Processing, and beginning a GUI interface in Java/Processing.
- http://faculty.kutztown.edu/parson/pubs/SonificationPacise2016Published.pdf

Senior Capstone Project — **Fall 2015 – Spring 2016**

- TextbooKU: Android app that allows students to buy textbooks from and sell to other students on campus. This app was a capstone group project for Software Engineering I & II. As Project Leader & System Analyst, I guided the development from the initial idea through the SDLC to deployment. I helped to coordinate the team's efforts and produced technical documents
- Presented project at PACISE 2016 Conference

LANGUAGES AND TECHNOLOGIES

Most Used Languages: C++, Java, Ada, Python, Ladder Logic

Conversant with: Shell Scripting, Regex, HTML/CSS, SQL queries

Software: MS Office, Adobe Photoshop, Bash, VMWare

Development Environments: Processing, Arduino, Eclipse, Android Studio, Emacs, RSLogix, FactoryTalk View Studio

Operating Systems: Windows 95 - 10; Mac OSX; Unix/Linux

HONORS & ACTIVITIES

- Student Mentor, CareSTEM Program, 2015-2016 year
- PACISE 2016 Conference Participation: https://www.kutztown.edu/news-and-media/ku-media/daily-brief/april-2016/april-7-2016.htm
    - Published paper: *TextbooKU: a Mobile App that Helps Students Trade Textbooks and Save Money*
    - Computer Graphics & Audio Demonstration in the planetarium
    - Presentation with Dr. Parson & Hallie Langley: "Timbral Data Sonification from Parallel Attribute Graphs"
- CompTIA A+ Certified Professional Depot Technician, 220-604, June 2009
- Hobby electronics & prototyping with Arduino & breakout boards, Raspberry Pi – Most recent project: digital sound generation
- Practicing Xcode tutorials for iOS apps

Complete work history & references available upon request