Global Product Surveillance Quality Associate I Global Product Surveillance Quality Associate I Lead Python Developer Buffalo, NY A biomedical engineering master s graduate with a deep interest in software development. I have three years of experience programming desktop applications that have involved methods in computer vision and machine learning. Authorized to work in the US for any employer Work Experience Global Product Surveillance Quality Associate I Baxter Healthcare - Medina, NY October 2017 to Present Assists Baxter Healthcare's Quality Department in the quality management of one of the most popular infusion pumps sold world-wide by monitoring and analyzing pump malfunctions. Ensures compliance with FDA regulatory standards via 21 CFR 803 and ISO 9000 through communication with engineers and medical specialists. Constructed various Visual Basic tools with Microsoft Excel to automate redundant documentation. Spoke with hundreds of Baxter customers to gather more details surrounding pump malfunctions. Lead Python Developer ETP Resources - Dublin, OH June 2017 to Present Designed and developed a web scraper to streamline investor analysis of stock exchange; potentially saving thousands of man-hours a year. The software, developed using the Python framework, Scrapy, and XPath, automatically extracts ETN related documents from the SEC EDGAR financial database. A PostgreSQL relational database was used to store the scraped data. Currently working with CEO and President, James Simpson, on scraping XBRL filings from the SEC archives and storing these in a file structure hosted on AWS S3. These filings will be parsed and placed in a SQL server database for future analysis. Teaching Assistant Cornell University - Ithaca, NY August 2016 to December 2016 Prepared labs for Cellular Principles of Biomedical Engineering. Supervised 12 Cornell undergraduates during labs, graded lab reports, homework and examinations. Digital Pathology Programmer University at Buffalo - Buffalo, NY May 2015 to July 2016 Developed MATLAB software to automatically detect cancerous regions in high-resolution microscopic oral cavity tissue images. The software s training set consisted of strategically selected texture features extracted from hundreds of thousands of ground truth image pixels. The training set was then fed into a na ve Bayes classifier. k-fold cross-validation as well as ROC and AUC calculations were used to evaluate the classifier, which achieved about 80%

accuracy. Accessed high performance cluster computing using the SLURM job scheduler to compute large jobs. Implemented various open source segmentation programs in MATLAB such as contour detection and Chan-Vese segmentation to delineate the boundaries of these cancer regions. EMT-B Rural/Metro Corporation - Niagara Falls, NY June 2014 to August 2014 Transported patients by ambulance, completed patient care reports and assisted a Paramedic. Mastered basic life support including oxygen therapy, vital monitoring, spinal stabilization and CPR. Education Master of Engineering in Biomedical Engineering in Biomedical Engineering Cornell University, College of Engineering, Ithaca May 2017 Bachelor of Science in Biomedical Engineering in Biomedical Engineering University at Buffalo, School of Engineering and Applied Sciences, Buffalo May 2015 Skills Python (3 years), MATLAB (2 years), Computer Vision (2 years), Embedded OS (2 years), C (1 year), Machine Learning (1 year) Links https://www.linkedin.com/in/stephenschneider10 https://github.com/sms675 Additional Information TECHNICAL SKILLS Python, MATLAB, C/C++, Computer Vision, Image Processing, Machine Learning/Pattern Classification, Data Analytics, Tkinter GUI, NLTK, Web Scraping, HTML, CSS, SQL, SSH, Raspberry Pi and Arduino Microcontrollers, Embedded OS, Circuits and Signals, Real-Time Video Processing and Analysis, Unix/Linux, Bash Shell Scripting, SLURM, Analog/Digital Conversion, Spectral Analysis, Direct Digital Synthesis, LaTeX, VBA, Microsoft Office. SOFTWARE EXPERIENCE Lead Python Developer, ETP Resources, Dublin, OH June 2017 - Present Designed and developed a web scraper to streamline investor analysis of stock exchange; potentially saving thousands of man-hours a year. The software, developed using the Python framework, Scrapy, and XPath, automatically extracts ETN related documents from the SEC EDGAR financial database. A PostgreSQL relational database was used to store the scraped data. Link to code sample: https://github.com/sms675/web-scraper. Currently working with CEO and President, James Simpson, on scraping XBRL filings from the SEC archives and storing these in a file structure hosted on AWS S3. These filings will be parsed and placed in a SQL server database for future analysis. Raspberry Pi Real-Time Video Processing, Cornell University, Ithaca, NY Aug - Dec 2016 Utilized a Raspberry Pi embedded system with a camera and a Python script to detect

the area of a hand in a video. The hand area was detected using skin color and contour detection. It was then correlated with a range of sounds that were output from the embedded system in real-time.

Analog-to-digital converters were used to connect 8 potentiometers to the system's GPIO ports. These digital inputs were connected to a C program and used to select between various wave envelopes (tones). These wave envelopes were computed using harmonic analysis and Excel. SSH was used to login to the Raspberry Pi to access and modify the software. Link to design details and video of working device: goo.gl/LupWKk Automated Skin Lesion Boundary Detection, Cornell University, Ithaca, NY Aug - Dec 2016 Designed computer vision software, in a team of 3, to automatically segment skin lesions; a necessary first step to automated skin cancer diagnosis. The software was developed in C++ and included adaptive thresholding, connected component analysis, parameter optimization and a training dataset of 100 ground truth dermoscopic images. The Dice coefficient was used to evaluate our algorithm. Our project was awarded 3rd best out of 21 in the class "Computer Vision". Digital Pathology Programmer, University at Buffalo School of Medicine, Buffalo, NY May 2015 - July 2016 Developed MATLAB software to automatically detect cancerous regions in high-resolution microscopic oral cavity tissue images. The software's training set consisted of strategically selected texture features extracted from hundreds of thousands of ground truth image pixels. The training set was then fed into a na ve Bayes classifier. "k-fold" cross-validation as well as ROC and AUC calculations were used to evaluate the classifier, which achieved about 80% accuracy. Link to code: https://github.com/sms675/cancer-classifier. Accessed high performance cluster computing using the SLURM job scheduler to compute large jobs. Implemented various open source segmentation programs in MATLAB such as contour detection and Chan-Vese segmentation to delineate the boundaries of these cancer regions. Design of Nitrous Oxide Detector, University at Buffalo School of Dental Medicine, Buffalo, NY Aug 2014 - May 2015 Configured a contact potential device containing monolayer coated metal plates to detect toxic gas levels within the constraints of a dental operatory. A calibration curve was constructed to relate the voltage output from the device with the nitrous oxide concentration (ppm) that was injected into the device. A C++ program was then developed on the Arduino to

automatically calculate gas concentration and sound an alert if a threshold was reached. Awarded Honorable Mention for 2015 IEEE Region 1 Paper Competition.

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