James Fallisgaard

Data scientist / miner / analyst / visualization builder

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Writes code to wrangle multi-dimensional datasets and answer key questions about your product & business.

CAREER TIMELINE, PROJECTS and ACCOMPLISHMENTS

Data Scientist | James Fallisgaard Data Consulting, Brooklyn, NY. *(2013.09 – present)*

- Built a **Python** web scraper to mine 20 years of North Korean propaganda news archives in to **JSON** documents that are text-indexed for search with **MongoDB** and **PyMongo** for Tufts political science grad students.
- Designed and created an interactive choropleth map VS time visualization of North Korean international relations in **D3.js** for **JavaScript**, with **HTML5** and **CSS**. Deployed with **Git** and **GNU Make** on an Ubuntu Linux VPS.
- Designed and implemented a **XML** data fetching service and interface for handling testing definitions, a component of a refactoring of Impinj RFID's production test software suite in **C++**.

Senior Product Engineer | Impinj RFID, Seattle, WA. *(2010.09 – 2013.09)*

- Coded and practiced the full data science workflow (designed experiments, written software employing a variety of technologies, performed statistical analyses and built visualizations) to personally drive large increases of startup's gross margin $'s on several occasions. Greatest single impact of a single experiment/analysis I delivered was ~$1.5M.
- Designed and created several large interactive dashboard visualizations to monitor Impinj RFID's production line in **TIBCO Spotfire.** These dashboards were used in production for monitoring statistical process controls in a high-dimensionality high-volume manufacturing environment.
- Owned build-out of RF testing software system for three generations. Wrote initial testing software in **Perl**, and gradually refactored test logic to merge with larger internal testing suite in **C++**. Defined **SQL** relational database schema design for system's data. Created digital multimeter control and test module in **C++**.
- Implemented and designed an automated data pipeline system in **Perl** for managing digital "wafermaps" (good/bad chip locations on a given silicon wafer) for Impinj RFID's full silicon chip production line through delivery to customer.
- Designed and carried out experiments to understand customer complaints leading to root cause analyses of quality problems. Lead subsequent corrective actions on internal processes.
- Experienced working in both software engineering developer teams using **Subversion** and Agile SCRUM, and test/product engineering sustaining teams on "firefighting" time.

Co-founder | Clear Potential, Seattle, WA. *(2009.12 – 2010.06)*

- Founded a solar-power generating window tint company leveraging organic photovoltaic materials, making it to the final round of the 2010 University of Washington (UW) Foster Business School Business Plan Competition out of 92 teams. Managed a grant budget to build a functional prototype in the UW Material Science and Engineering Research Labs.

SKILLS & TECHNOLOGIES

Data Acquisition, Mining, Extraction

- Scripting utilities to process large amounts of (often messy) data in **Python**, **Perl**, **SQL, Bash**, **Octave/MATLAB**.
- Refining and refactoring data sources with a mind to hooking up new data streams to visualizations.

Data Transformation, Loading, Processing

- Experience in creative querying, data manipulation and schema definition in **SQL** and **MongoDB** databases.
- Munging, pivoting, manipulating and cleaning messy data in **Python**, **SQL**, **Perl**, **Octave/MATLAB**.

Data Analytics and Statistical Analysis

- Statistics training from working in volume manufacturing.
- Coding to automate frequent data analyses with **Python**, **Perl**, **Bash**, **GNU Make**.
- Working with high-dimensionality, high volume (up to billions of items) data from various messy un-normalized sources in **Python**, **Perl**, **SQL**, **Octave/MATLAB**.

Data Visualization

- Designing and building interactive visualizations using suites like **TIBCO Spotfire**, or for web with **D3.js** for **JavaScript**.
- Delivering visual-focused presentations of findings and recommendations for technical or business audiences.

EDUCATION

B.S. in Materials Science & Engineering, minor in Physics, **University of Washington**, Seattle, WA. *(2005 – 2010)*

- **Lab Researcher:** built polymer solar cells in Prof. C. Luscombe's Organic Polymer Photovoltaic Research Group.