This was a Band 7 position at IBM.

Led and managed SRAM and Logic yield for 14nm IBM microprocessor products, taking ownership of primary responsibilities.

Diagnosed and resolved over 10 distinct random and systematic defects, resulting in significant yield improvements, reaching enhancements of up to 60%.

Utilized extensive data mining, correlation, and trend analysis techniques to diagnose and extract core identifying features for these defects.

Pioneered the implementation of machine learning and random forest classifiers. This technique was never before used in my team and enabled an automated way to identify and monitor Logic and SRAM defects, saving hundreds of hours and providing a valuable dataset for further analysis.

Analyzed the impacts of device changes on Logic and SRAM yield and metrology parameters, assessing whether increased performance justified potential yield loss.

This is a Band 8 position at IBM.

Led and managed SRAM and Logic yield for 7nm and 5nm IBM microprocessor products, taking ownership of primary responsibilities. Implemented machine learning techniques to classify multiple systematic defects, which resulted in a 20% yield improvement and maintained a baseline of 98% yield. Utilized Random Forest Classifiers and custom-built classifiers to classify defects.

Developed and maintained 7 dashboards using Python and SQL. Automated engineering tasks and introduced innovative data visualization methods through a robust user-interface. Significantly reduced engineering workload by hours, uncovered novel insights, leveraged data science libraries such as Scikit-Learn and Dash.

Engineered a robust big data pipeline using Python and SQL, incorporating an algorithm to analyze 9,000+ unique parameters, with the objective of isolating significant shifts. This automated the timely detection of potentially harmful changes in electrical or device measurements, most of which are not regularly monitored.

Engineered an unsupervised machine learning algorithm to cluster wafers with similar regional defects with the dual purpose of grouping known fails together as well as revealing previously unknown defects.