# HITESH BASANTANI

APPLIED DATA SCIENTIST

## CONTACT


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Portland, OR

linkedin.com/in/hiteshbasantani


## EDUCATION

**Master of Information and Data Science**

University of California, Berkeley (2023-Current)

**PhD, M. Sc, B. Sc. in Engineering Science and Mechanics**

The Pennsylvania State University, University Park (2004 – 2014)

## PROGRAMMING

Python (NumPy, Pandas, Scikit-learn, PyTorch, TensorFlow and Keras)

AWS ECR Image Containers

MySQL,

PostgreSQL

Neo4j

FastAPI

Git

Docker

## PROFESSIONAL OVERVIEW

Data scientist and engineering manager with a demonstrated track record for finding solutions to abstruse problems using data. 15+ years of experience of technical leadership in developing new processes, improving quality, yield, and reliability on high-volume processes.

## WORK EXPERIENCE

**Yield and Technology Development Engineer (Intel Corp.) 2018-Current**

Technical Expertise:

- Developed predictive neural-network models which generated 2-dimensional correction that can be applied in-situ during the manufacturing process to improve mask CD uniformity. These correction maps, improved mask yield by 0.5% and get utilized for each reticle manufactured at Intel for this process.
- Developed and deployed pattern placement correction maps built using neural network models which recommend a 2-D placement correction. These maps improve pattern placement variation by 25%.
- Pioneered a decision tree-based regression models written using XGBoost library in python to recommend etch recipe selection. The regression model led to an improvement of 0.3% in yield and improve average Critical Dimension (CD) values on all reticles manufactured by Intel.
- Communicated updates to second level management regularly on challenges facing the manufacturing process and drove working groups to find and implement solutions.
- Provides technical mentorship by being first chair on an inter-module team focusing on pattern placement improvement projects and part of the committee that drives critical dimension improvement projects.

Leadership Expertise:

- Manage a team of 8 engineers responsible for ensuring product yield and quality across all production lines, while also spearheading the successful introduction of new process lines into high-volume manufacturing, driving continuous improvement and operational efficiency.
- Provides technical mentorship by being first chair on an inter-module team focusing on pattern placement improvement projects

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## SKILLS

Lithography

E-beam

Chemical Vapor Deposition

Thin Film Deposition

Scanning Electron Microscopy

Rutherford Backscatter Spectroscopy

X-ray Diffraction

X-ray reflectivity

Energy-dispersive Spectroscopy

Ellipsometry

Atomic Force Microscopy

## WORK EXPERIENCE CONTINUED

**Process Technology Development Engineer (Intel Corp.) 2014-2018**

- Developed new metrics through advanced statistical learning methods for tracking tool performance and directed improvements with the vendor. These efforts helped improved tool up-time by reducing number of adjustments needed on the tool and drive toolset up-time by 3%
- Went beyond the scope of a tool owner by observing process variability and helped improve reticle pattern placement performance by providing recommendations to yield engineers. This effort resulted in a 40% reduction in the standard deviation associated with a product metric important to the customer.

## REFERENCES

Available Upon Request