Classification of Cancer Cells using Computational Analysis of Dynamic Morphology

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Highlights

- It is shown that cancer cells, and especially metastatic tumor cells, show very distinctive morphological behavior compared to their healthy counterparts on aptamer functionalized surfaces.
- The approach presented analyzes the optical data and quantifies the cell morphology for an instant detection of cancer cells.
- This can contribute to early cancer diagnosis.
- Three classifier models, Support Vector Machine (SVM), Random Forest Tree (RFT), and Naïve Bayes Classifier (NBC) were trained with known dataset.
- All classifier models detected cancer cells with an average accuracy of least 82%.