DATASET ANALYSIS

Automated Image Analysis of Tissues & Cellular Proteins

DataSet Analysis
matov@datasetanalysis.com

Founder:
Alexandre Matov, PhD
Computer vision scientist with expertise in biomedical image analysis and cancer research; senior member of IEEE.

COMPANY INTRODUCTION & MISSION

DataSet Analysis is an early stage biomedical company that aims to bring medical diagnostics software to the business market. The founder of the company is Alex Matov. Alex completed undergraduate and graduate training in communications engineering in Europe and a doctorate in computational cell biology at Scripps Research in La Jolla, CA, where he developed computer vision algorithms for the analysis of time-lapse microscopy images of living cells. During his postdoctoral work at Cornell Medical in NYC and UC San Francisco, he cultured primary patient-derived cells in organoids and performed high resolution imaging with the objective of discovering mechanisms of disease pathogenesis and resistance to existing therapies. He has pubished his work at Nature and PNAS as well as specialized journals in cancer research, computer vision, cell biology and microscopy. His current focus at DataSet Analysis is the development of contemporary software for advanced data analysis with a core mission of facilitating the precise automated measurements of subcellular events in the context of biomedical research and personalized medical care.

OUR COMPUTER VISION SOFTWARE

Our company provides high-content analysis for molecular oncology in the context of precision medicine or secondary screening of novel theurapeutic compounds. Our bioimage informatics software can facilite the analysis of degenerative diseases and *ex vivo* drug susceptibility testing in functional assays as well as assist physicians with real-time lesion localization during surgeries. We present our simple to use software product which segments the precise area of your fiduciary markers and analyzes their motion dynamics. We demonstrate its performance on a synthetic computer-generated video mimicking the motion dynamics of cellular proteins at datasetanalysis.com/synthetic-demo. The underlying algorithm has three steps: image pre-processing step, detection of features for tracking and motion tracking analysis. The computer code we have implemented our platform is in *C* programing language. The software performance is controlled by four sliders and four buttons to the left of the screen. The output result of our analysis is presented to the right of the screen in the form of two histograms, the direction of motion distribution is shown above and the speed of motion distribution is shown below. Additional diagnostics are displayed on the fly at the lower right corner of the screen. Our applications can be compiled for desktop and laptop computers (Windows/Mac/Linux), smartphones (iOS/Android) as well as smartglasses (Vive/Hololens). We are currently developing a Software as a Service (SaaS) platform for remote server computing.