

- ### Data Acquisition & Sourcing
- Stream - IoT sensor networks (Tbs)
 - Scrap, Crawl, Push, Pull, Batch
 - Structured/Unstructured
 - Time-Series (Gbs)
 - Movement Pattern (Tbs)
 - Video/Visual (Tbs)
 - Behavioral & Genetic (Tbs)
 - Analytical Chemistry
 - API

Ingest

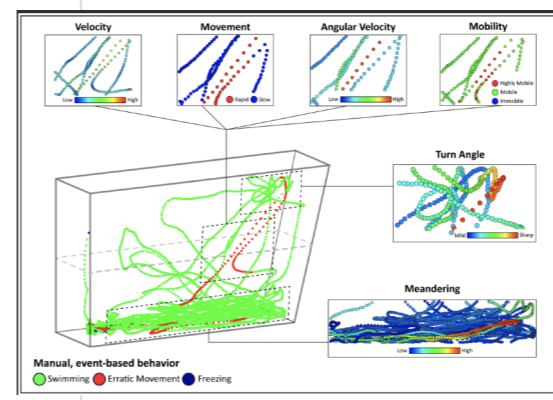
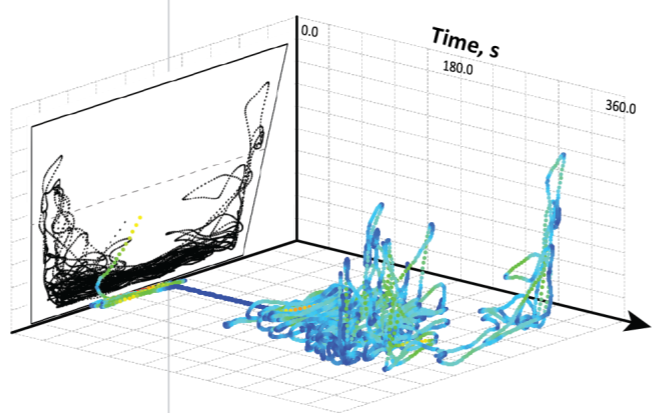
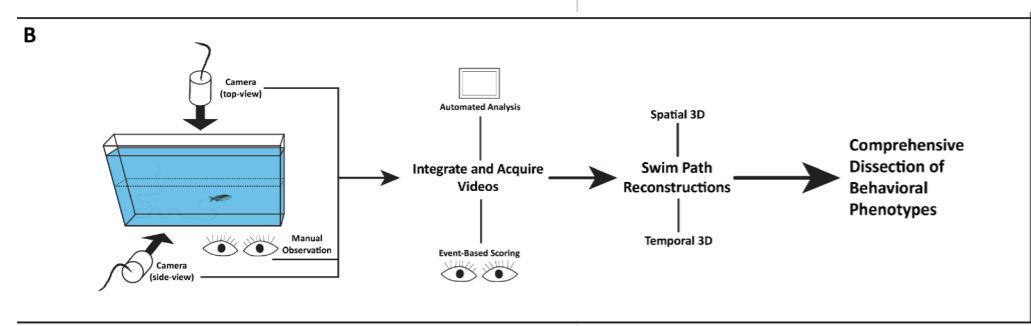
- ### Data Warehousing
- Google Cloud Platform (abd onCert Professional Data Engineering)
 - BigQuery, DataPrep, Cloud Functions, Composer (Airflow), Scheduler, Compute, Cloud Storage, Workspace, AppScript, Drive, Docs, Slides, Sheets, DataStudio
 - AWS (Amazon S3, Glue, Athena, EMR, RDS, and Lake Formation)
 - PostgreSQL, MySQL, MangoDB, Capsio, Firebase, Private Cloud Database, Oracle, noSQL
 - HortonWorks/Cloudera, DataBricks, Hex, Mode
 - Hadoop/Hive
 - Back-up, Audit, Validation, Staging & QA/QC processes

ETL/ELT

- ### Prep/Munge
- RapidMiner / KNIME
 - R, R Studio, RMD
 - Python (Jupyter Notebooks, scipy, numpy, dataframes, pandas, pytorch, timeseries)
 - Excel/Sheets/Tableau
 - Hadoop/Hive
 - MatLab
 - Automation, Batch, Parallel, Conversion
 - Validation, Cataloging, Semantic Enhancement, Ontology, Tagging, Labeling, Enrich, Merge, GROUP BY, ORDER BY, Integration

- ### Analytics & Reports
- Rapidminer / KNIME
 - DataStudio, Looker, Holistics, Spark, dbt,
 - Tableau, SAS, SPSS
 - Neo4j, D3j, Markdown, Shiny, HTML, Plotly
 - Statistical Analysis, Broader Impacts, Patterns & Trends
 - Business Consumption, Decision Making, Forecasting, Preventive Maintenance, Root Cause Analysis
 - Internal Documentation

Neurobehavioral Psychopharmacology Research (2008-2012)



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RESEARCH ARTICLE

Integrating cross-scale analysis in the spatial and temporal domains for classification of behavioral movement

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Abstract: Since various behavioral movement patterns are likely to be valid within different, unique ranges of spatial and temporal scales (e.g., instantaneous, diurnal, or seasonal) with the corresponding spatial extents, a cross-scale approach is needed for accurate classification of behaviors expressed in movement. Here, we introduce a methodology for the characterization and classification of behavioral movement data that relies on computing and analyzing movement features jointly in both the spatial and temporal domains. The proposed methodology consists of three stages. In the first stage, focusing on the spatial domain, the underlying movement space is partitioned into several zonings that correspond to different spatial scales, and features related to movement are computed for each partitioning level. In the second stage, concentrating on the temporal domain, several movement parameters are computed from trajectories across a series of temporal windows.

Soleymani & Cachat (2014), "Integrating Cross-Scale"

Neuroscience Information Research Project (2012-2014)

Cultivation Resource Efficiency R&D

