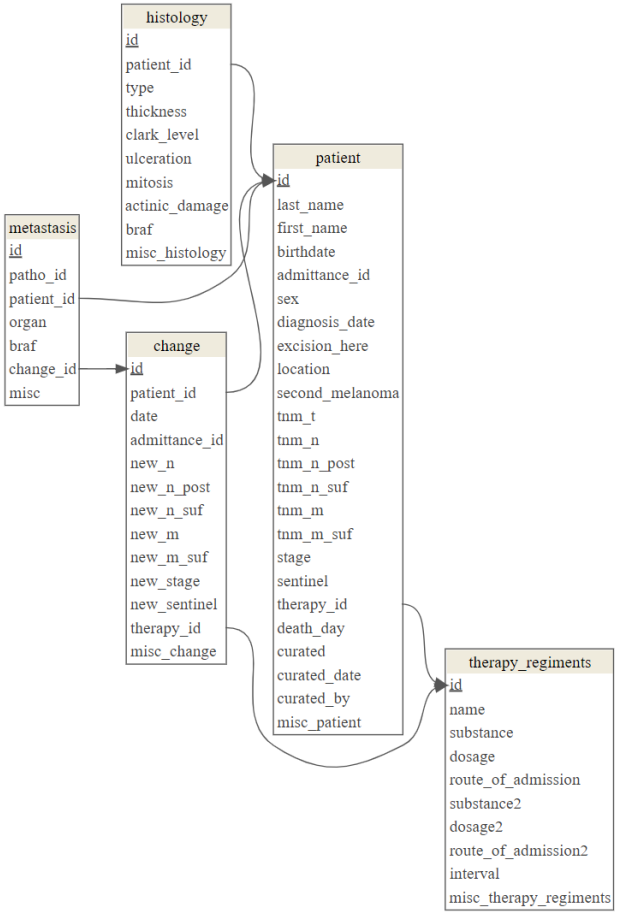
T1: Visual Analytics to Support Tumor Boards in Dermatology

- **Goal:** Develop a tumor board visual analytics system that
  a. effectively displays longitudinal patient data
  b. identifies and visualizes characteristics and treatment histories of the most similar previously treated patients
- **Evaluation:** on a real hospital database
- **Requirements:**
  - Strong interest in Data Science
  - Practical experience with EDA and data visualization
  - Successful completion of at least one of these courses: Data Mining I, Machine Learning, Visual Analytics, DL
  - Programming experience in Python, R or D3
- **Target group:** 2-3 Master FIN students
- **Application:** Until 21 April 2022



Dermatology DB schema

T2: Domain Adaptation for Tinnitus Diagnostics

- **Domain adaption:** methods that deal with differences in distributional properties between the **source domain A** (≈ training set) and the **target domain Z** (≈ test set)
- **Typical challenges:**
  a. **Prior shift:** A and Z are different w.r.t. the distribution of the target variable
  b. **Covariate shift:** A and Z are different w.r.t. the distributions of features
  c. **Concept shift:** A and Z are different w.r.t. the relationship between features and the target
  d. **Subspace mapping:** A and Z are different w.r.t. the feature spaces
- **Goal:** Develop a domain adaptation system that compensates for these challenges in tinnitus patient data from two different centers
- **Requirements:**
  - Strong interest in Data Science
  - Successful completion of at least one of these courses: Data Mining I, Machine Learning, Visual Analytics, DL
  - Programming experience in Python or R
- **Target group:** 2-3 Master FIN students
- **Application:** Until 21 April 2022