

T o t a l
S t e r e o

2.5D Untertage

Team

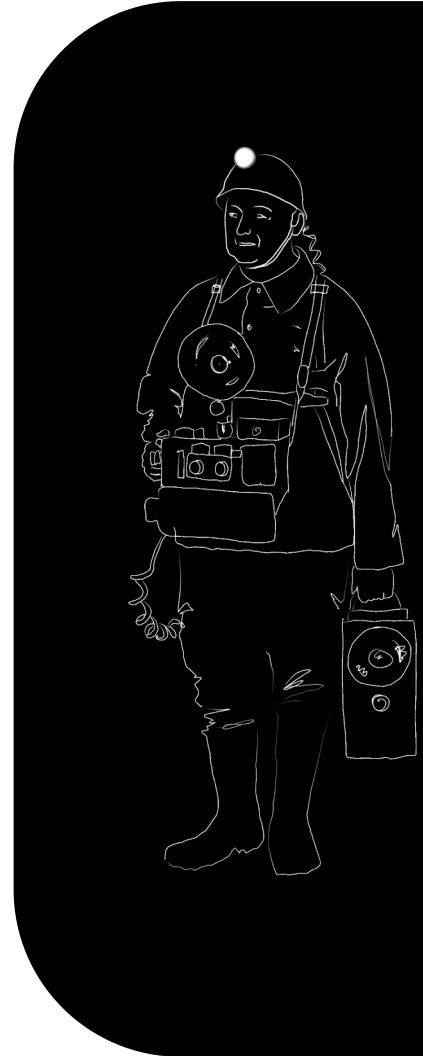
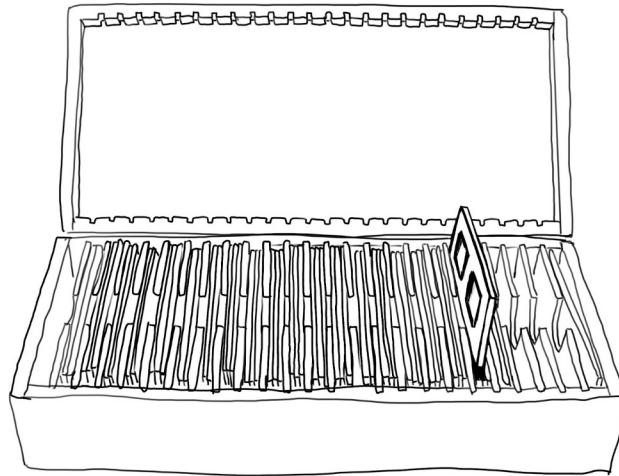


**T o t a l
S t e r e o**

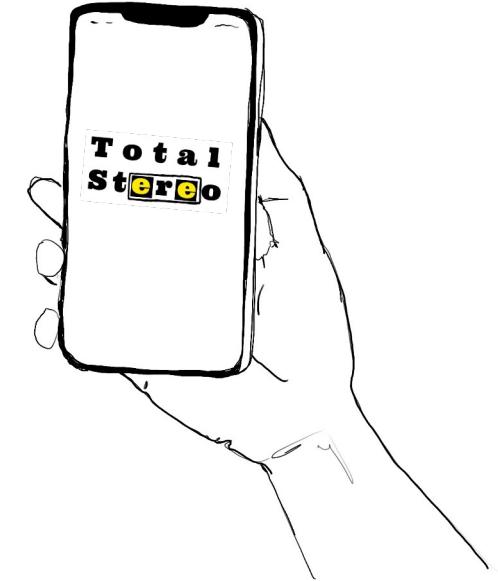
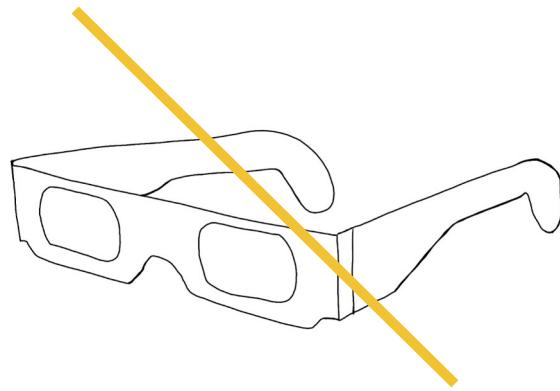
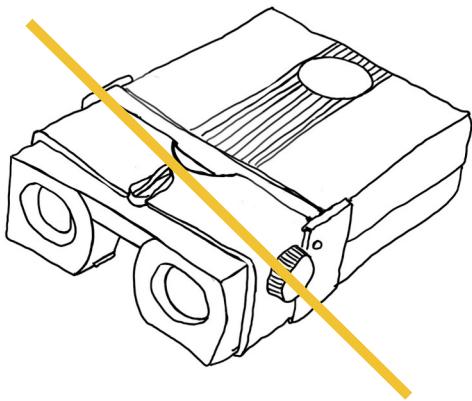
Datenset & Stereoskopie

Datenset:

- Sammlung der SAXONIA FREIBERG STIFTUNG
- 143 Stereoskopische Diaaufnahmen von Wolfgang Schreiber



Motivation



Total
Stereo

Ziel: 3D Photo

Gegeben:



Gesucht:



Total
Stereo

1. Schritt: Separierung der Bilder

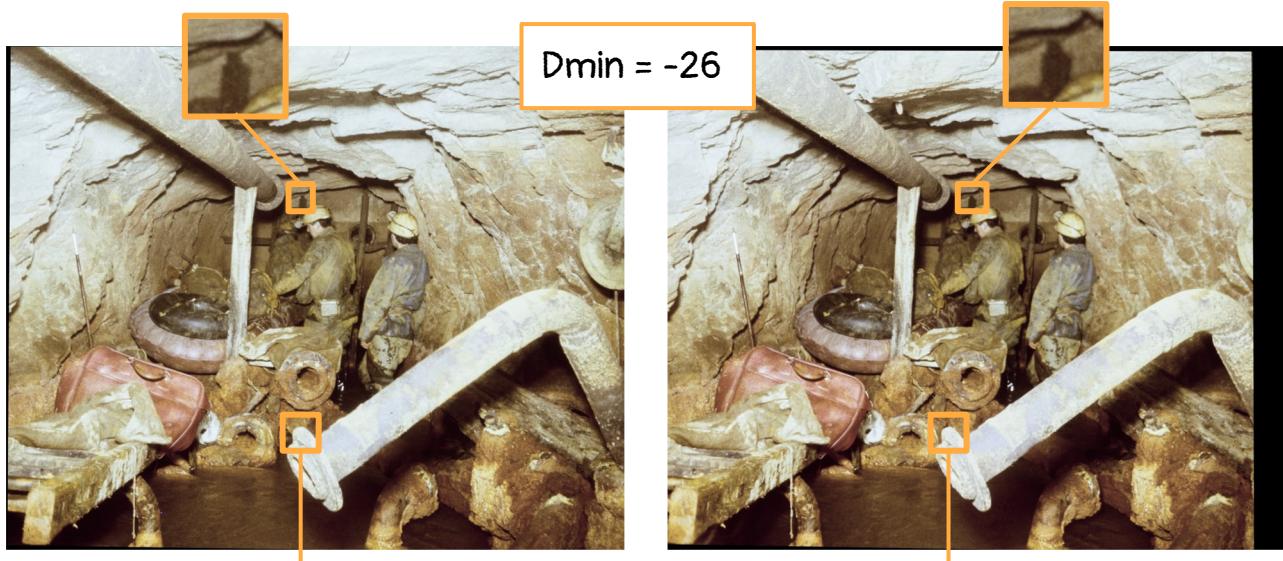
1. Linkes und rechts Bild extrahieren
2. Herunterskalieren (Faktor 0,5)
3. Gelbanteil um 40% Reduzieren



Total
Stereo

2. Schritt Rektifizierung

1. Feature-Suche
in beiden
Bildern
2. Bilder
ausrichten
3. Minimale und
maximale
Disparität
ermitteln



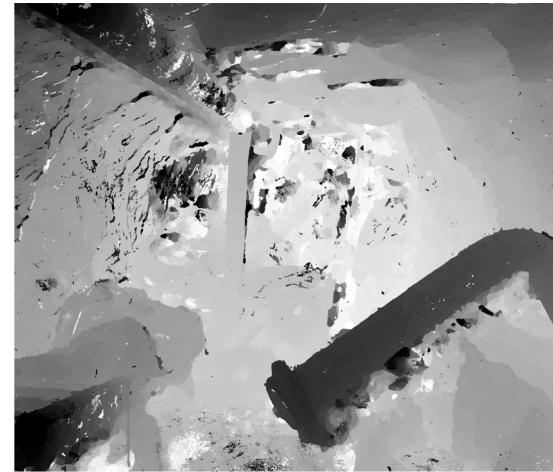
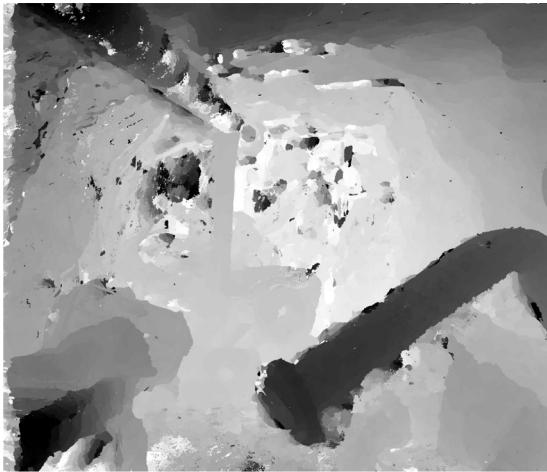
$$D_{\max} = x_1 - x_2 = 40, Z \sim 1/D$$

3. Schritt Tiefenbild(er) erstellen

Fast Cost-Volume Filtering for Visual Correspondence and Beyond

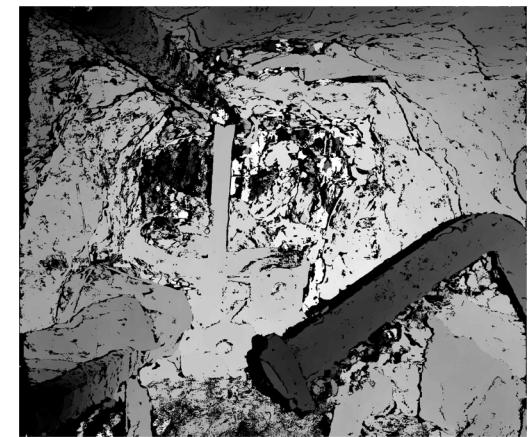
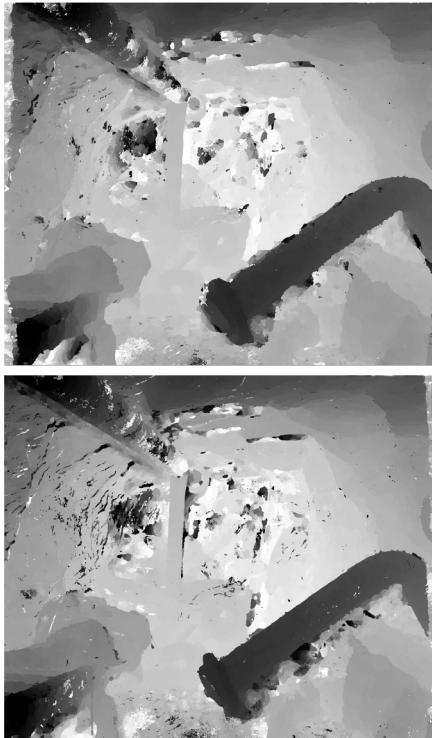
Christoph Rhemann¹, Asmaa Hosni¹, Michael Bleyer¹, Carsten Rother², Margrit Gelautz¹

¹Vienna University of Technology, Vienna, Austria ²Microsoft Research Cambridge, Cambridge, UK



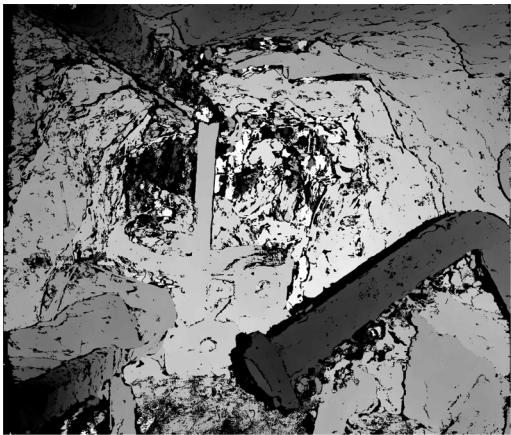
Total
Stereo

4. Schritt: Okklusionen ermitteln



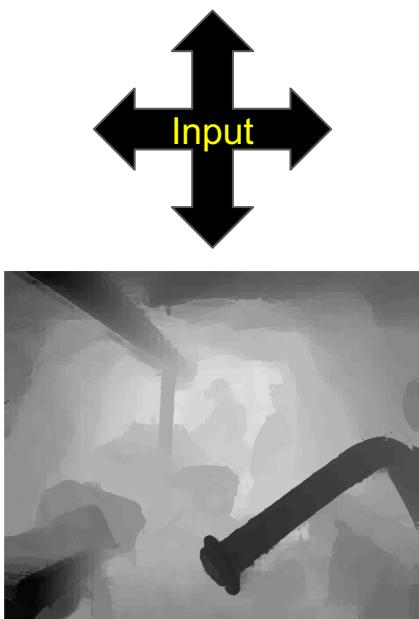
Total
Stereo

5. Schritt: Postprocessing



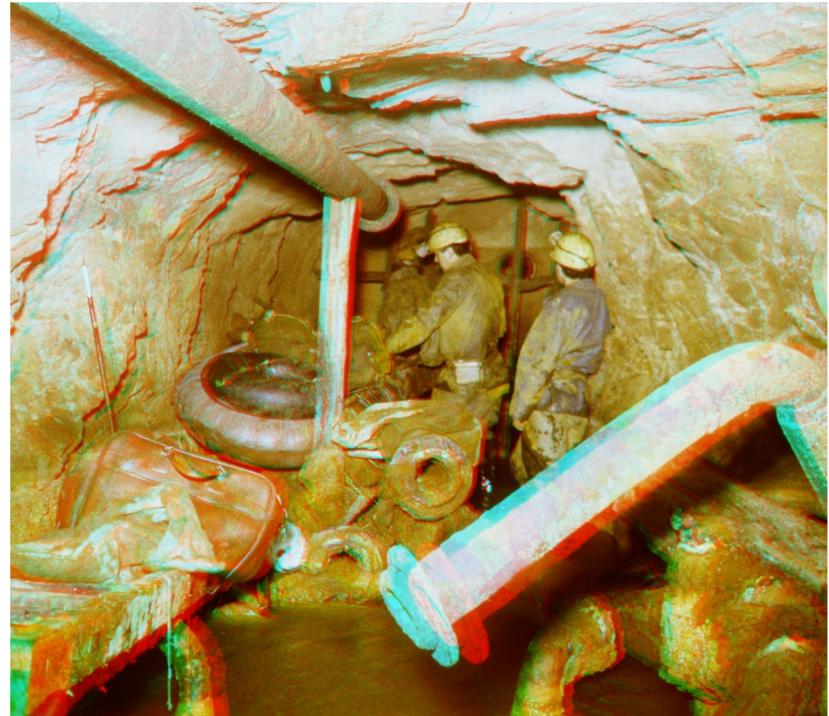
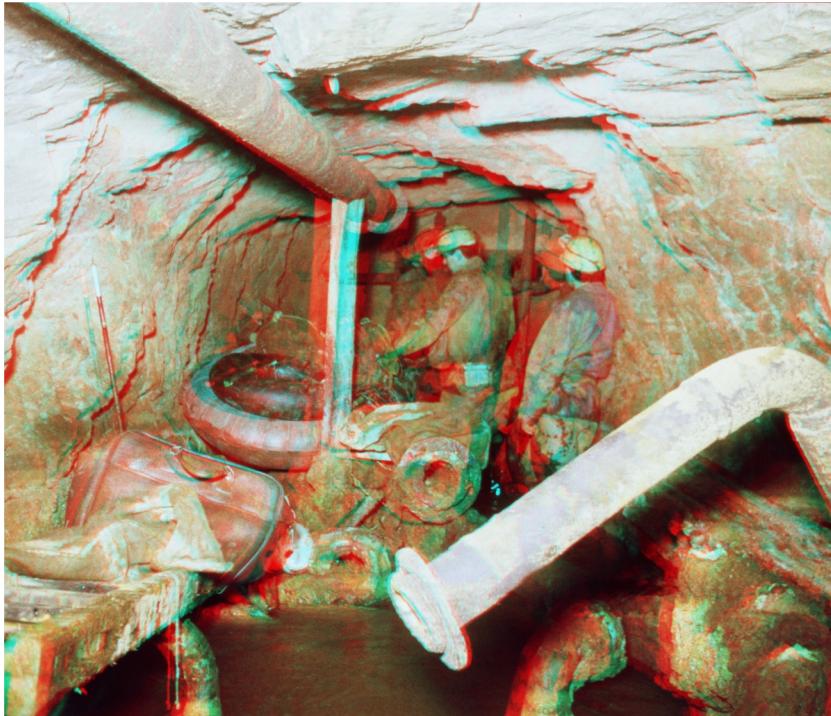
Total
Stereo

Präsentation: DisplacementFilter



Total
Stereo

Anaglyphenbild erstellen



Total
Stereo

Future Work

- Upload your stereo photos
- 3D Rekonstruktion des Stollens

Demo

T o t a l
S t e r e o



Demo



Total
Stereo

