Course Schedule 2017/18

• Vision
  • Neurophysiology
  • Cognitive psychology
  • Computational theory (Marr paradigm, representations, algorithms)
• Linear Filtering, Convolution
• Definition of terms, system model of image understanding
  • Visual recognition → the “holy grail” of computer vision
• Segmentation and grouping → 2D image/scene description
• Object categorization
  • Terms, goals, issues, …
  • Saliency, detectors and descriptors
• Signal processing: Fourier, Gabor
• Scale: Global scale @ image level ↔ local scale @ object level
• Object models
• Learning and Recognition: CNNs for image and video understanding
Written Exam

Dates currently offered on TUGOnline: 25.1., 1.2.

A few more timeslots will be offered in summer term (coming soon).

In case you need a further exam date, please check my regular exams (~ monthly) on “Messtechnik 2”. Send me an email regarding your preferred date and I’ll open an “Image and Video Understanding” exam jointly with “Messtechnik 2” (same date, time, and room).
IVU KU Final Presentations

• Team up – groups of 2 students ✓
• Choose your topic: → Oct. 10\textsuperscript{th}, refine til next week ✓
  → Discuss with us, Oct. 17\textsuperscript{th}, 15:30 ✓

• Write a 1-page topic description:
  • Topic, data
  • Problem(s)
  • Model(s)
  • Envisioned solution(s)
  • Expected results
  → mail to axel.pin@tugraz.at and feichtenhofer@tugraz.at
  by Oct. 31\textsuperscript{st} ✓
  → brief individual feedback Nov. 7\textsuperscript{th} ✓

• Mid-term presentation → Nov. 28\textsuperscript{th}, in class ✓
• Final presentation → Jan. 30\textsuperscript{th}, in class
<table>
<thead>
<tr>
<th>Team</th>
<th>Students</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ronacher, Kmeid</td>
<td>Video recognition (flow) ADAs (driver assistance)</td>
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<tr>
<td>2</td>
<td>Hussain, Tähtinen</td>
<td>Printed text recognition</td>
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<td>3</td>
<td>Leopold, Steger</td>
<td>Equation solver</td>
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<td>4</td>
<td>Feldhofer, Ruby</td>
<td>Emotion recognition from facial images</td>
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<td>5</td>
<td>Zach, Mahmoud</td>
<td>Rubik’s cube</td>
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<td>6</td>
<td>Salhofer, Warmer</td>
<td>Motion prediction</td>
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<td>7</td>
<td>Strasser, Micorek</td>
<td>Sudoku solver</td>
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<tr>
<td>8</td>
<td>Ainetter, Jantscher</td>
<td>Traffic signs (either from one image or from video)</td>
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<tr>
<td>9</td>
<td>Kulmer, Samec</td>
<td>Video segmentation: comparison of several approaches</td>
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<tr>
<td>10</td>
<td>Kopp, Komposch</td>
<td>Semantic segmentation</td>
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Final Presentations (Jan. 30\textsuperscript{th})

- Finish your project
- Present final solution and results
  - Don’t repeat your mid-term presentation, we’ve all seen it
  - Briefly recap and start with final solution
- Discuss success and failure cases
  - Where does your solution work, what are the benefits
  - Where does it fail and why
  - Potential improvements
- Brief presentation (mail us a pdf by Jan. 29\textsuperscript{th})
- Hand in a brief written report, your data and code
  - Bring all this on a USB stick, we’ll copy it to our laptop in class.