Computer Science

CS 544  **Optimiz in Computer Vision**  credit: 4 hours.
Applications of continuous and discrete optimization to problems in computer vision and machine learning, with particular emphasis on large-scale algorithms and effective approximations: gradient-based learning; Newton's method and variants, applied to structure from motion problems; the augmented Lagrangian method and variants; interior-point methods; SMO and other specialized algorithms for support vector machines; flows and cuts as examples of primal-dual methods; dynamics programming, hidden Markov models, and parsing: 0-1 quadratic forms, max-cut, and Markov random-fields solutions. Prerequisite: CS 450 and CS 473.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>57440</td>
<td>Lecture-Discussion</td>
<td>CV</td>
<td>11:00 AM - 12:15 PM</td>
<td>WF</td>
<td>1302 - Siebel Center for Comp Sci</td>
<td>Forsyth, D</td>
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Credit Hours: 4 hours