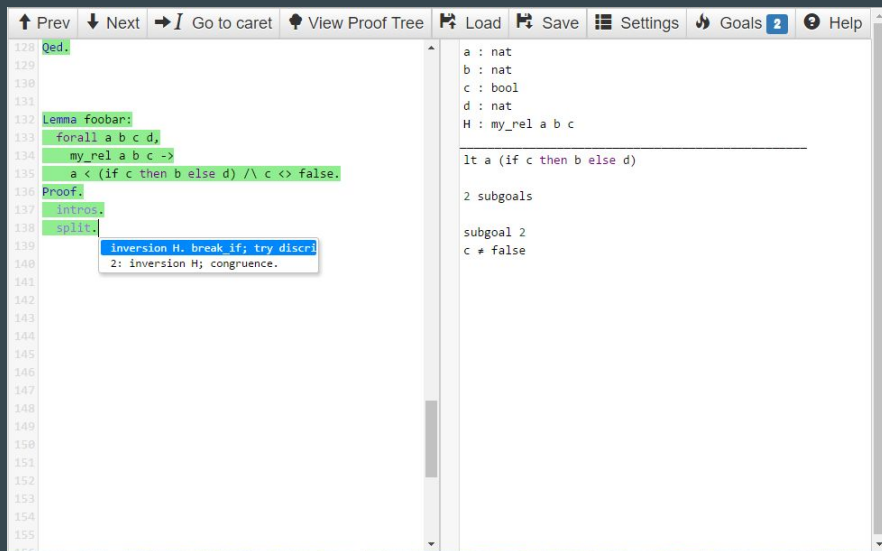


PeaCrow: A Smarter PeaCoq

- PeaCrow uses idle cycles to inductively synthesize Coq proofs automatically in the background.
- Demo
- Future Work
 - Branching Search
 - Smarter Heuristics
 - Superoptimizer



The screenshot displays the PeaCoq interface, which is a Coq proof editor. The left pane shows a Coq script with the following content:

```
128 Qed.  
129  
130  
131  
132 lemma foobar:  
133   forall a b c d,  
134     my_rel a b c ->  
135     a < (if c then b else d) /\ c <> false.  
136 Proof.  
137   intros.  
138   split.  
139     inversion H. break if; try discr  
140     2: inversion H; congruence.  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155
```

The right pane shows the current goals of the proof:

```
a : nat  
b : nat  
c : bool  
d : nat  
H : my_rel a b c  
-----  
1t a (if c then b else d)  
  
2 subgoals  
  
subgoal 2  
c # false
```

The interface includes a menu bar at the top with options: Prev, Next, Go to caret, View Proof Tree, Load, Save, Settings, Goals (2), and Help. A status bar at the bottom shows the current line number (155).