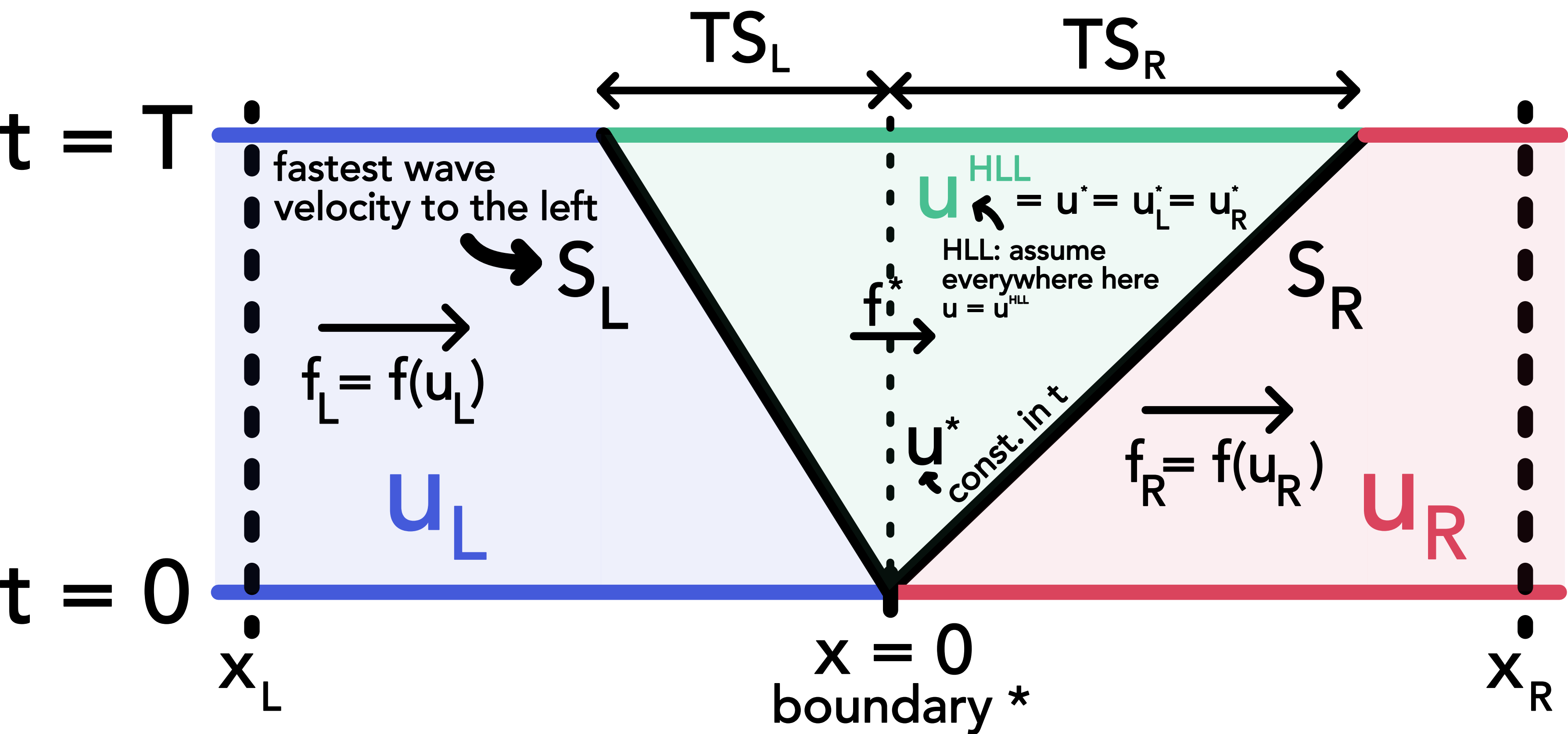$\nearrow = f_L^* = f_R^* = f^*$

aim: find flux f^* of conserved quantity u
$\partial_t u + \partial_x f(u) = 0$ through boundary at x = 0

TS_L TS_R

t = T

fastest wave
velocity to the left

S_L

$u^{HLL} \leftarrow = u^* = u_L^* = u_R^*$

HLL: assume
everywhere here
$u = u^{HLL}$

$f^* \rightarrow$

$f_L = f(u_L)$

S_R

u^* const. in t

$f_R = f(u_R)$

u_L

u_R

t = 0

x_L

x = 0
boundary *

x_R

obey CFL → independent intercell Riemann problems