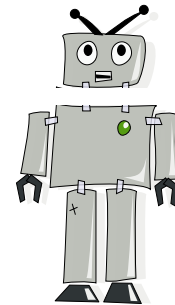


# Plánování v robotice



Tomáš Effenberger

Jak dobrými řidiči  
jsou lidé?



1,24 milionu mrtvých

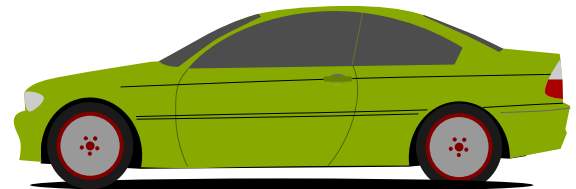
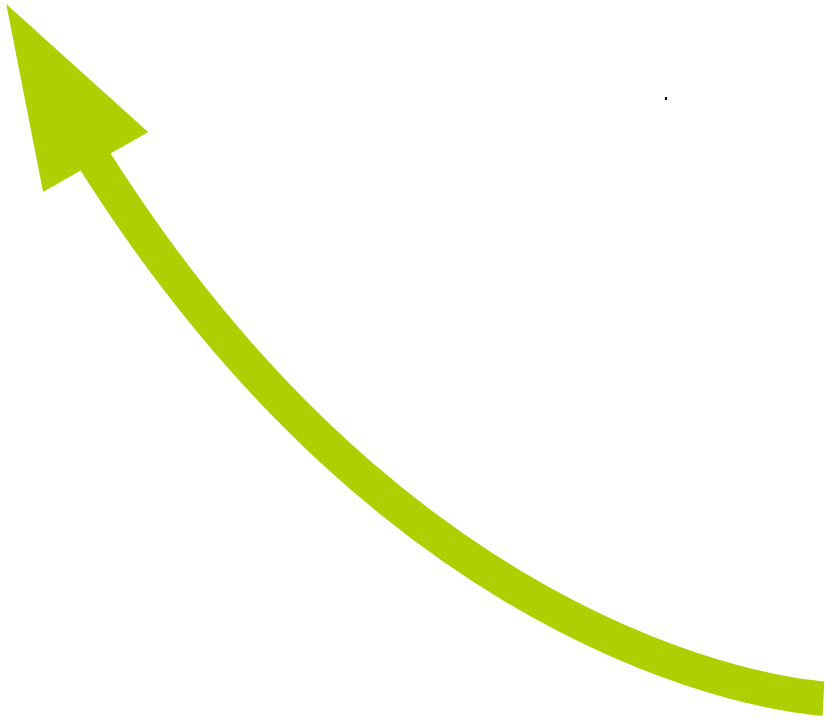


Jak dobrými řidiči  
jsou **roboti**?

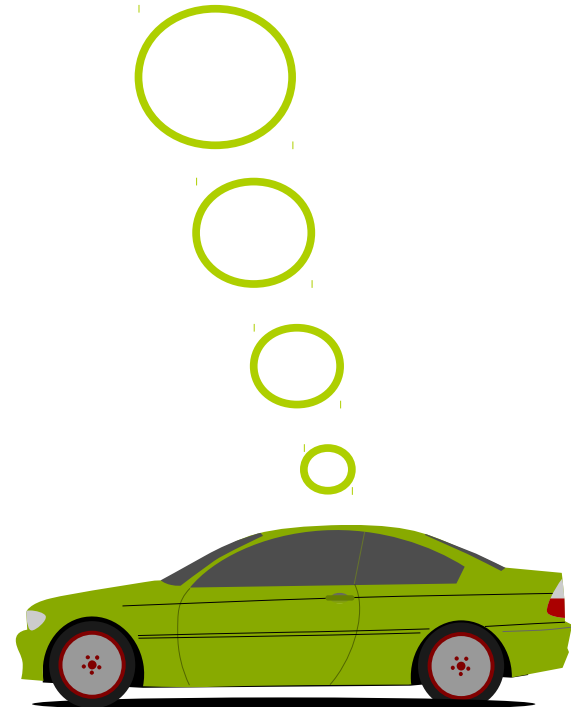


na prodej od roku 2020









```
graph TD; A((plánování)) <--> B((lokalizace)); A <--> C((mapování)); B <--> C;
```

plánování

lokalizace

mapování

Handwritten mathematical notes covering various topics in algebraic geometry and topology. The page is densely packed with equations, diagrams, and text.

Top left:  $\psi(g) = g$ ,  $g = \text{Dlog } f_u$ . A diagram shows a commutative square involving  $\psi$  and  $\phi$  maps.

Top right:  $M = X(E)$  and  $\int \psi dN(\alpha, \beta) = \int \psi dN(\alpha, \beta)$ . Includes a diagram with a vertical arrow and a horizontal arrow.

Middle left: A diagram showing a sequence of maps  $H^0(\Gamma, M^*) \rightarrow H^1(\Gamma, M^*) \rightarrow H^1(\mathbb{C}, M^*) \rightarrow H^2(\mathbb{C}, M^*)$ . Includes a vertical arrow labeled  $\alpha$ .

Middle center:  $N(f_u) = f_u$  and  $D = (1+T) \frac{d}{dT}$ . Includes a diagram with a vertical arrow labeled  $\alpha$ .

Middle right: A diagram with a vertical arrow labeled  $\alpha$  and a horizontal arrow labeled  $\tau$ . Includes a matrix  $\begin{pmatrix} \alpha & \alpha^2 + 2\alpha \\ \alpha & \alpha + 1 \end{pmatrix}$ .

Bottom left:  $\psi(f) \circ (1+T)$  and  $\det(1 - T \circ \beta)$ . Includes a diagram with a vertical arrow labeled  $\alpha$ .

Bottom center:  $N(p_2) = 2$  and  $\text{ker}(f) = H^1(\Delta, \mathcal{E}_{\text{prim}}(L^{\otimes 2}))$ . Includes a diagram with a vertical arrow labeled  $\alpha$ .

Bottom right:  $\int \chi_i d\bar{\tau} = 1$  and  $\text{det}(X, \sigma) = \text{det}(X, \sigma) = \text{det}(X, \sigma)$ . Includes a diagram with a vertical arrow labeled  $\alpha$ .

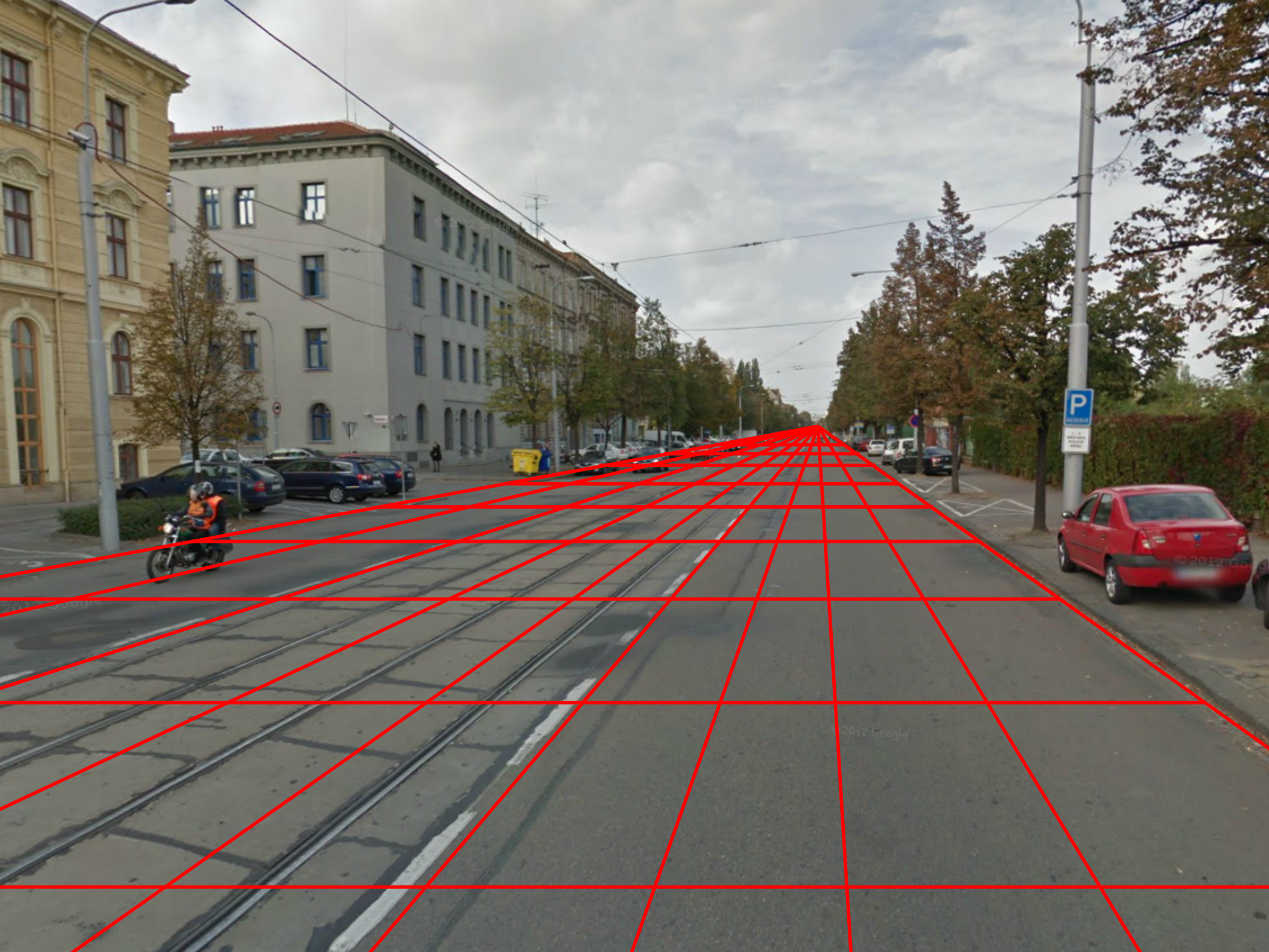
Additional notes include "for some  $u$ ", "SE 211 @ cam", "LINEAR", and "MATRIX".

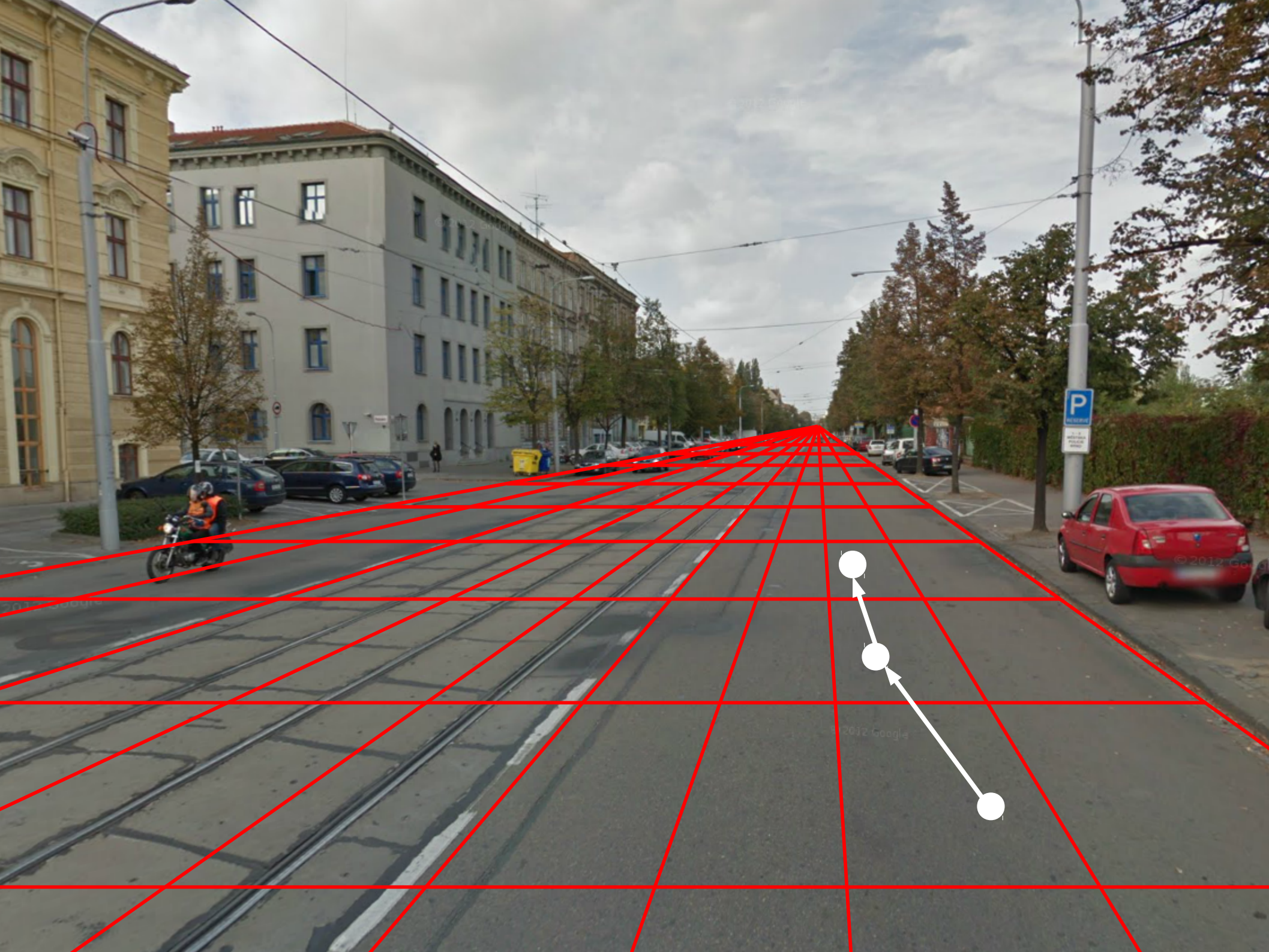


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Z.Š. BENEŠOVA  
PRAHA 1  
MČ PRAHA 1



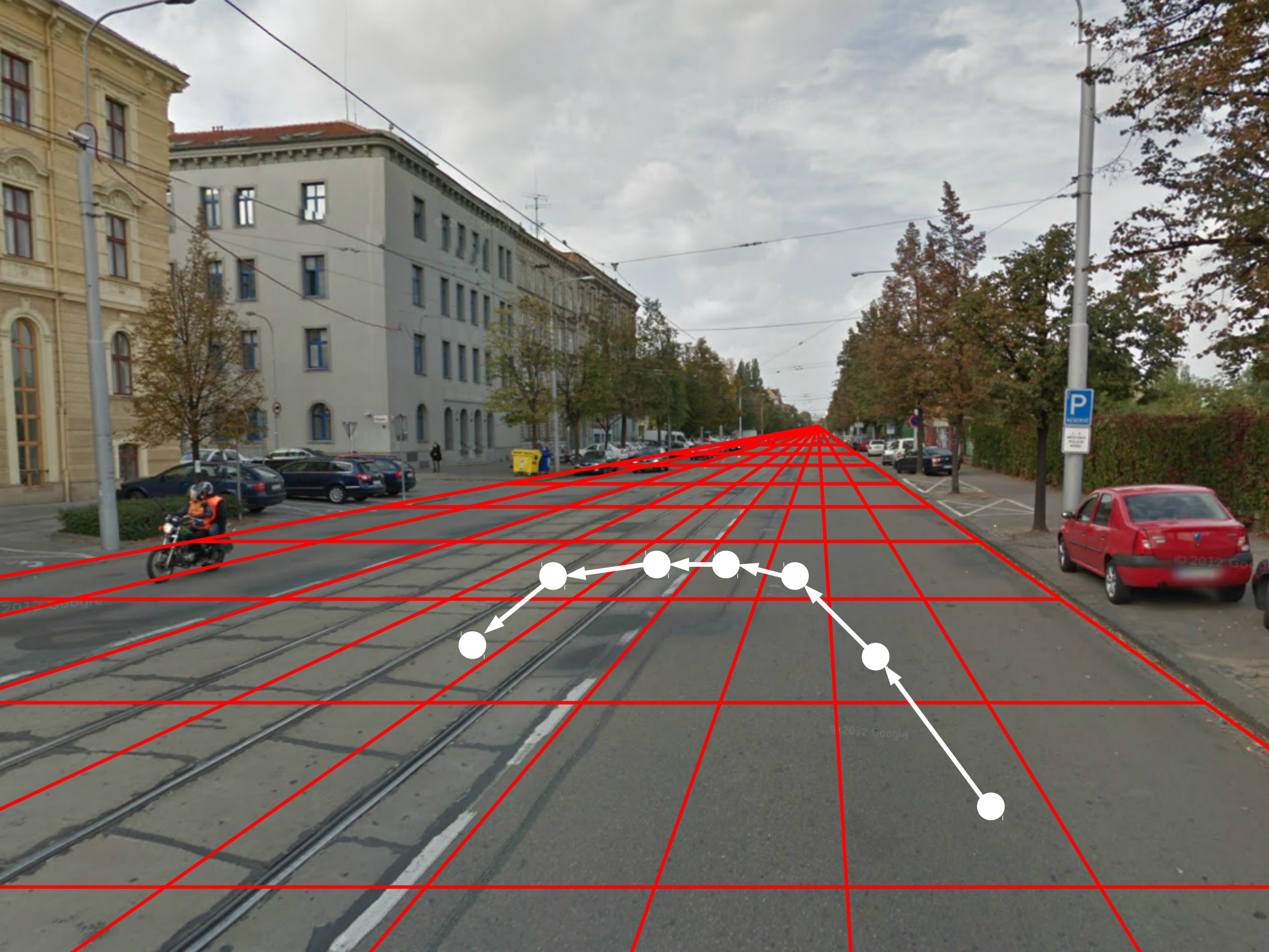


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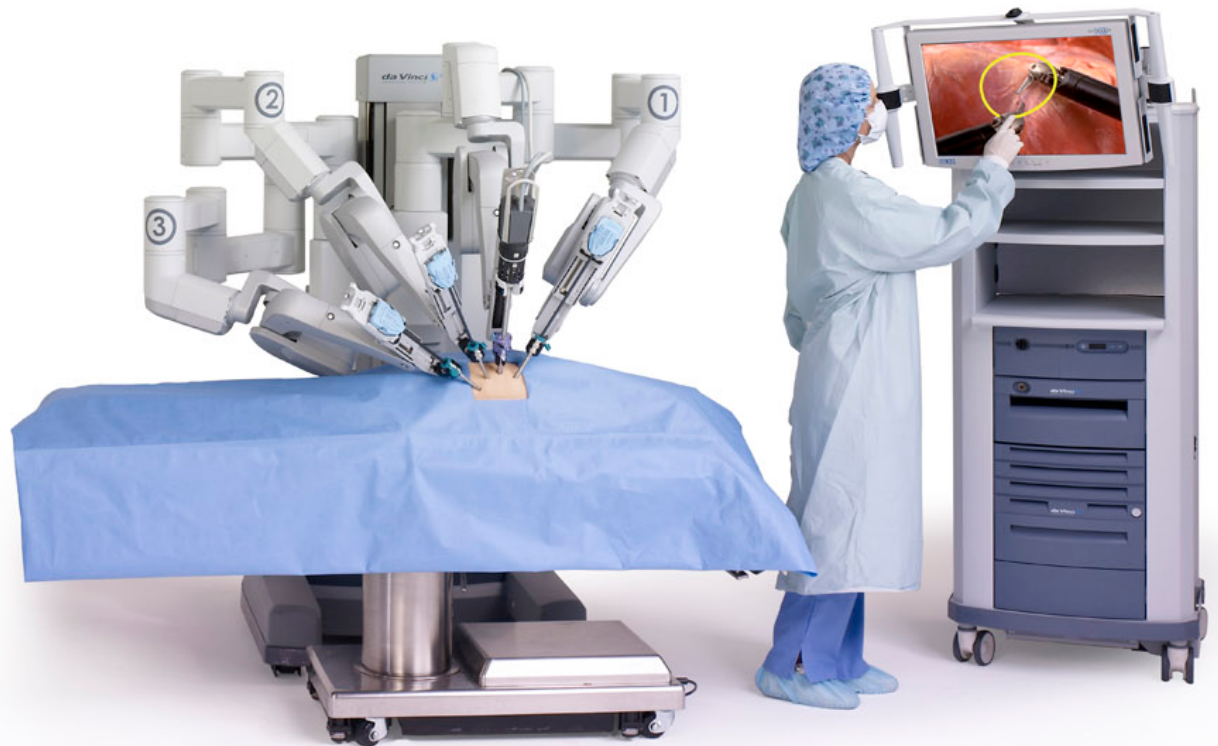
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# Robotická chirurgie





# Robotický vysavač



# RoboCup



# Zdroje

- Robot: *Openclipart*,  
<http://openclipart.org/detail/60415/cartoon-robot-by-rg1024>
- Autonehoda: *Wikimedia Commons*,  
[http://commons.wikimedia.org/wiki/File:Car\\_crash\\_1.jpg](http://commons.wikimedia.org/wiki/File:Car_crash_1.jpg)
- Google autonomní auto: *Wikimedia Commons*,  
[http://commons.wikimedia.org/wiki/File:Google%27s\\_Lexus\\_RX\\_450h\\_Self-Driving\\_Car.jpg](http://commons.wikimedia.org/wiki/File:Google%27s_Lexus_RX_450h_Self-Driving_Car.jpg)
- Auto: *Openclipart*,  
[http://openclipart.org/detail/58399/a-family-car-by-sheikh\\_tuhin](http://openclipart.org/detail/58399/a-family-car-by-sheikh_tuhin)
- Vizualizace Fakulty informatiky: *Cerit*,  
<http://www.cerit.cz/cs/cerit-sp/Building/>
- Mapa trasy na Fakultu inforamtiky: *Seznam Mapy*,  
<http://mapy.cz/>
- Tabule: *Wallpoper*,  
<http://wallpoper.com/wallpaper/mathematics-chalkboards-310458>
- Fotka Štefánikovy ulice: *Mapy Google*,  
<https://maps.google.cz/>
- Robotická chirurgie: *Texas Colon & Rectal Specialists*,  
<http://txcolorectal.com/robotic-surgery/>
- Robotický vysavač Roomba: *iRobot*,  
<http://www.irobot.cz/roboticke-vysavace/roomba-790.html>
- RoboCup: *RoboCup Dutch Open*,  
<http://www.robocupdutchopen.org/robocup>