



# *Moj put ka robotici*

Senka Krivić, PhD  
Naučnica, Robotičarka, Inženjerka, Mama, ...

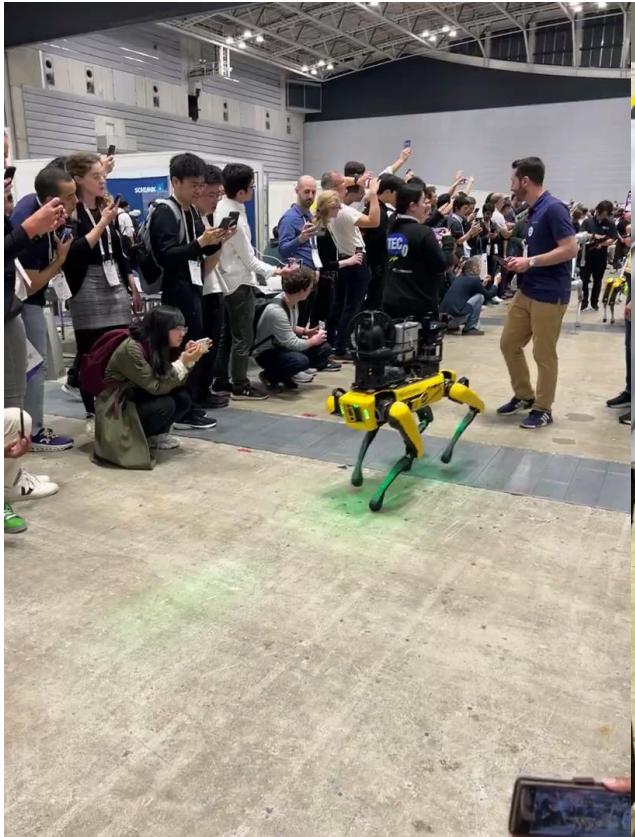
Sarajevo, 11. Juni 2024.

Škola budućnosti - Imagination Day u BiH



# 2024 IEEE International Conference on Robotics and Automation

13.-14. May 2024

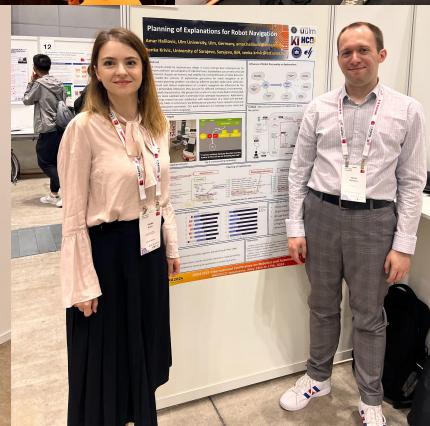
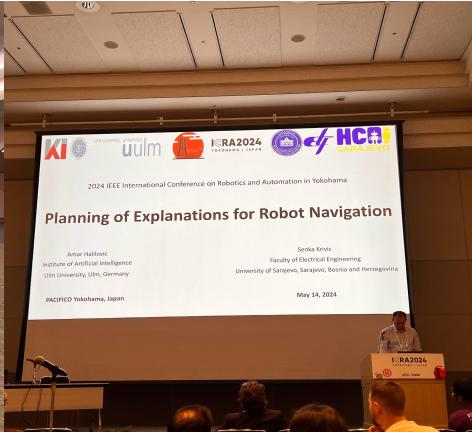




ICRA2024  
May 13-18, Yokohama, Japan

# 2024 IEEE International Conference on Robotics and Automation

13.-18. Mai 2024



*Kako i zašto sam postala naučnik?*

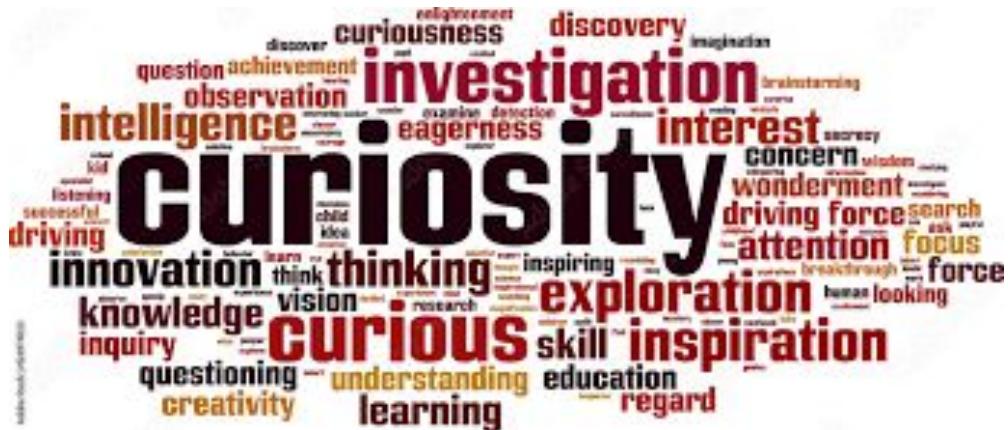
Kako i zašto sam postala naučnik?

ZNATIŽELJA!



Kako i zašto sam postala naučnik?

# ZNATIŽELJA!

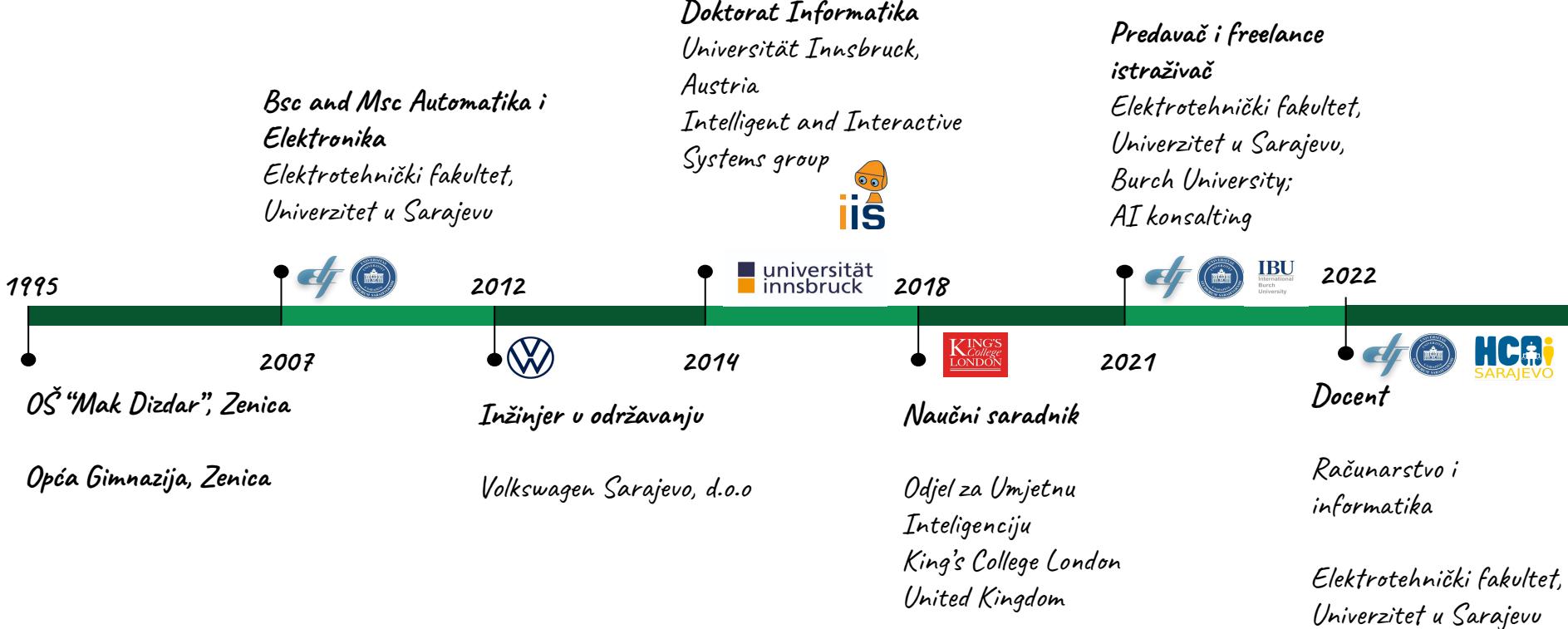


# Agenda

- Moj put
- Šta ja zapravo radim
- Kako postati robotičar



# Moj put



1995



2007

OŠ "Mak Dizdar", Zenica

Opća Gimnazija, Zenica

### Senka školarac

- Mnogo vannastavbih aktivnosti
  - Biciklizam, odbojka, klavir, slikanje
  - Novinarstvo
- Omiljeni predmeti:
  - Matematika, fizika i bosanski jezik
- Takmičenja
- Programiranje
- Volontiranje
  - Crveni križ, Forum Syd, Plus mladi za mlade
  - Peer edukator



FORUMSYD

2007



2012

## Bsc and Msc Automatika i Elektronika

Elektrotehnički fakultet, Univerzitet u Sarajevu



### EESTEC CC Sarajevo

- Aktivizam
- Radionice
- JobFair
- eNews

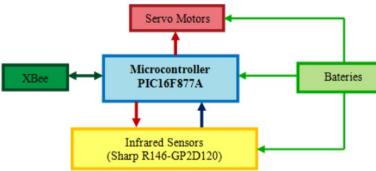


Radionica, Atina 2008

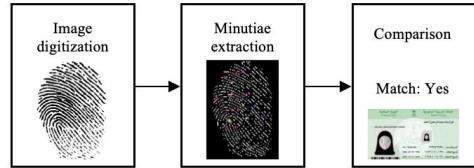
### Istraživanje:

- Bsc i MSc teze
- 4 naučna rada

Bsc teza: Gradnja mape mobilnog robota



Prva konferencija, MIPRO,  
Opatija, 2011



Odbрана Msc teze,  
Sarajevo, 2012

2012



2014

Inžinjer u održavanju

Volkswagen Sarajevo, d.o.o

Inženjer u održavanju

- Zamjenik šefa Odjeljenja za održavanje
- Dijagnostikovanje i otklanjanje kvarova
- Održavanje opreme i komponenti
- Modeliranje troškova održavanja opreme
- Analiza životnog ciklusa (CNC mašine, roboti, mašine za lasersko siječenje, merni uređaji, prese)



1995



universität  
innsbruck 2007



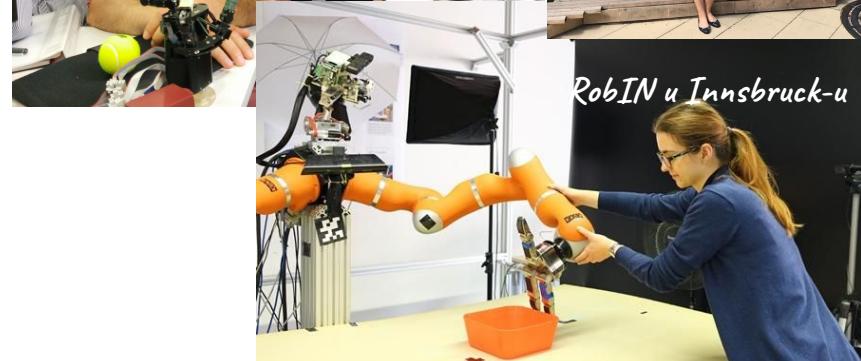
Doktorat - Informatika  
Universität Innsbruck, Austria  
Intelligent and Interactive Systems group

## Robotsko učenje

### Univezitetski asistent:

- Uvod u inteligentne i interaktive sisteme
- Uvod u programiranje

### Istraživač na EU-FP7 projektu



2018



2021

Naučni saradnik  
Odjel za Umjetnu Inteligenciju  
King's College London, United Kingdom

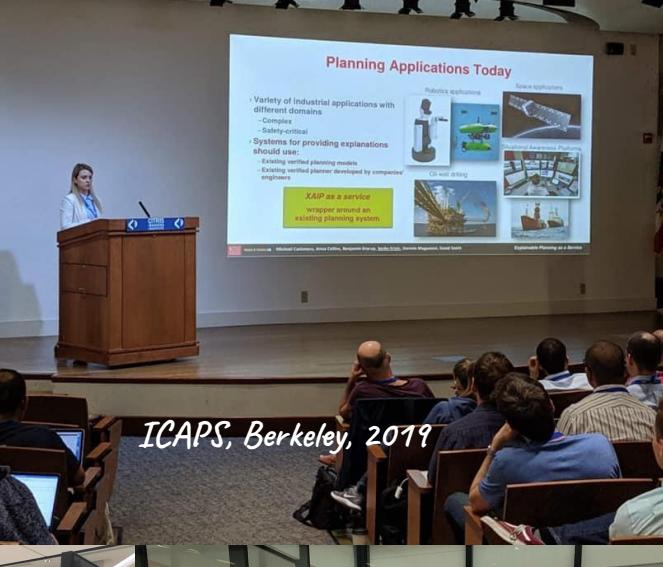
# Objasnjiva Umjetna Inteligencija

## *Rad na projektima:*

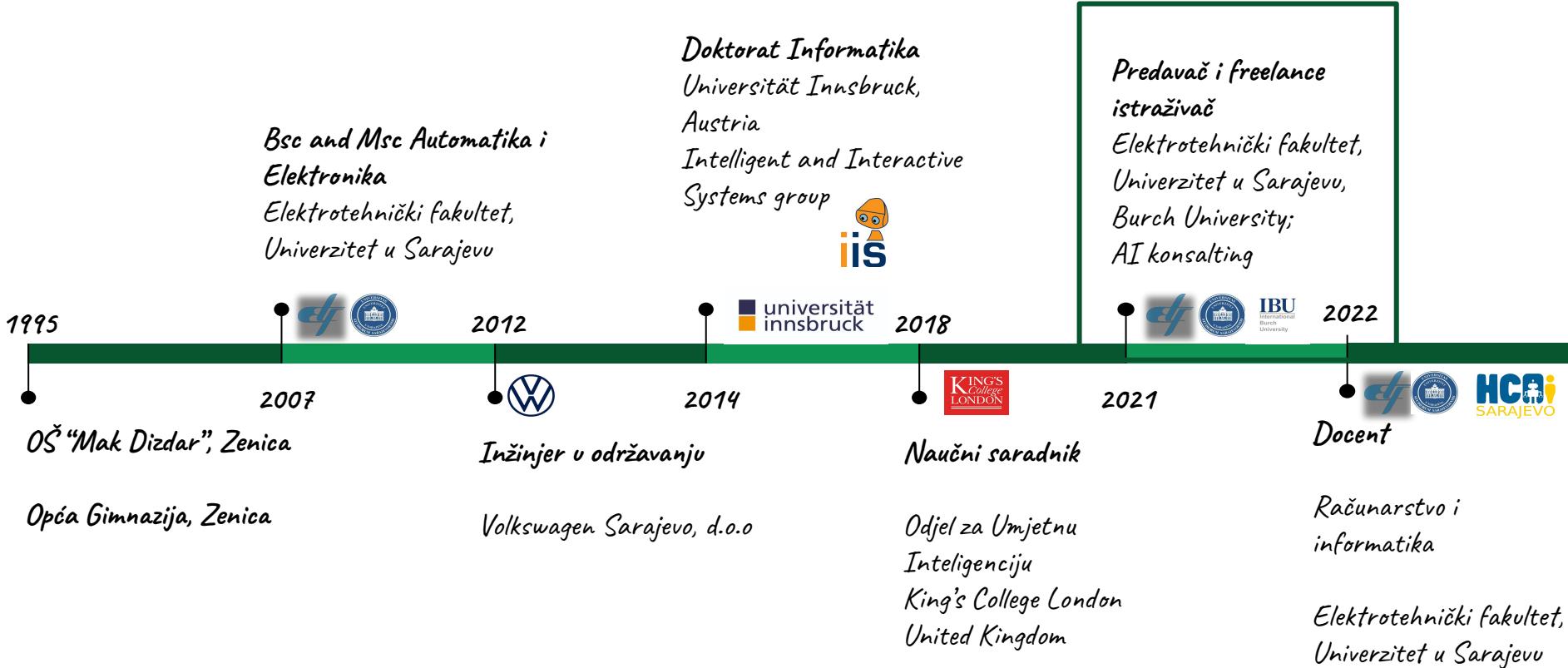
# INTELLIGENT SITUATIONAL AWARENESS PLATFORM

# THuMP

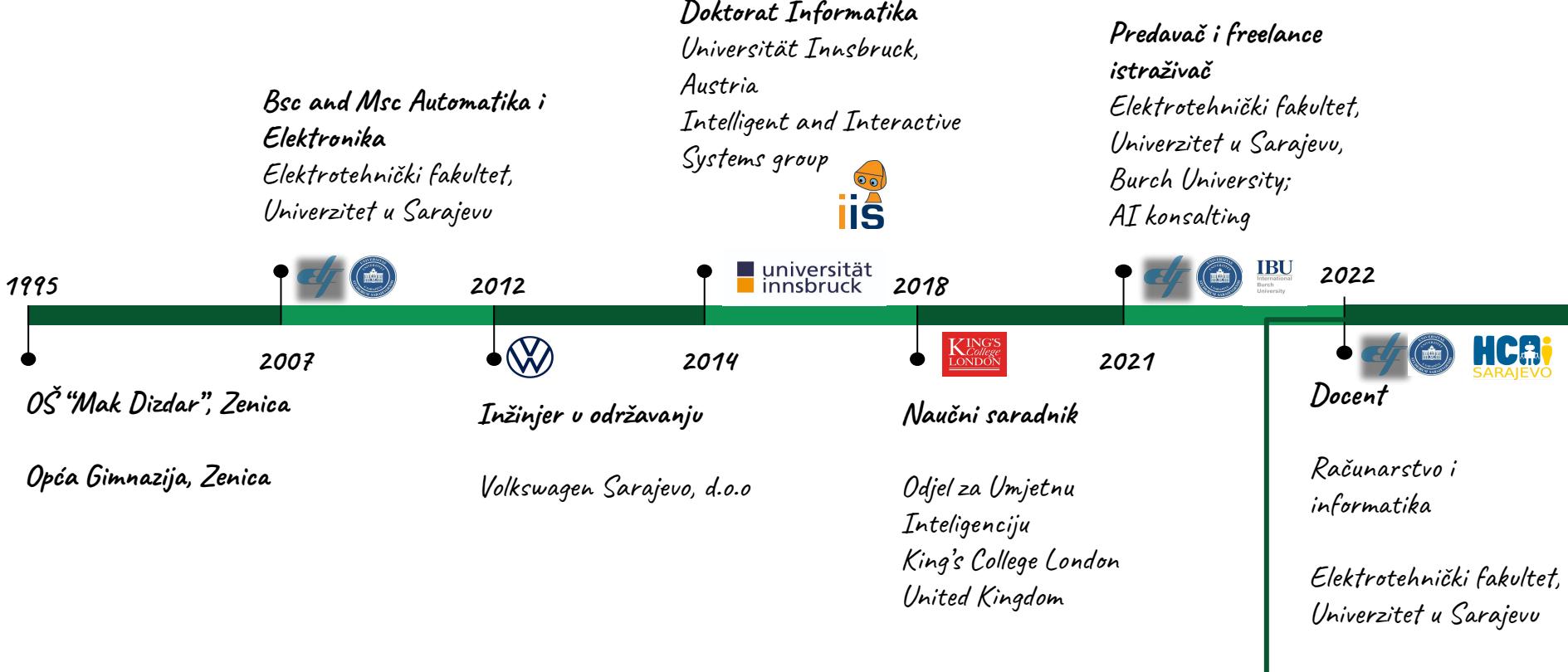
trust in  
human-machine  
partnerships



# Moj put



# Moj put



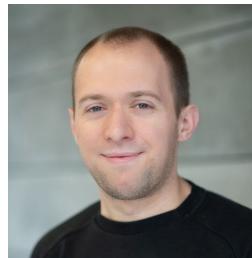
# *Tim istraživačke grupe Human-Centered Artificial Intelligence Sarajevo*



Mubina Kamberović



Vahidin Hasić



Amar Halilović



Amina Mević

- 4 doktoranta
- 7 Bsc i Msc istraživača
- 4 nacionalna i internacionalna projekta

*Naš cilj istraživanja je razvoj sistema umjetne inteligencije koji mogu razumjeti, komunicirati i saradivati s ljudima na pouzdan i etičan način.*



# *Agenda*

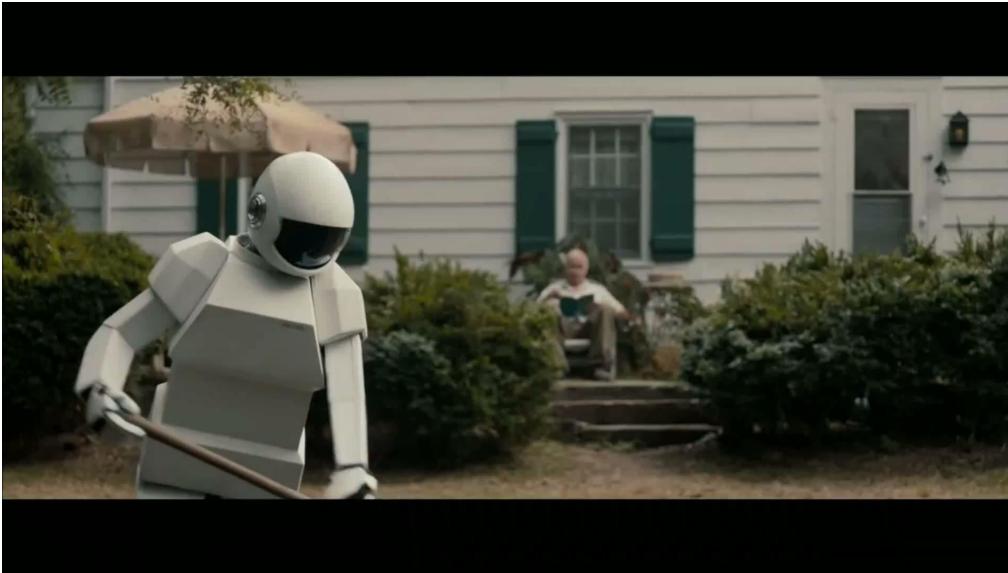
- *Moj put*
- *Šta ja zapravo radim*
- *Kako postati robotičar*



# *Servisni i asistivni roboti*



# *Motivacija za istraživačka pitanja*

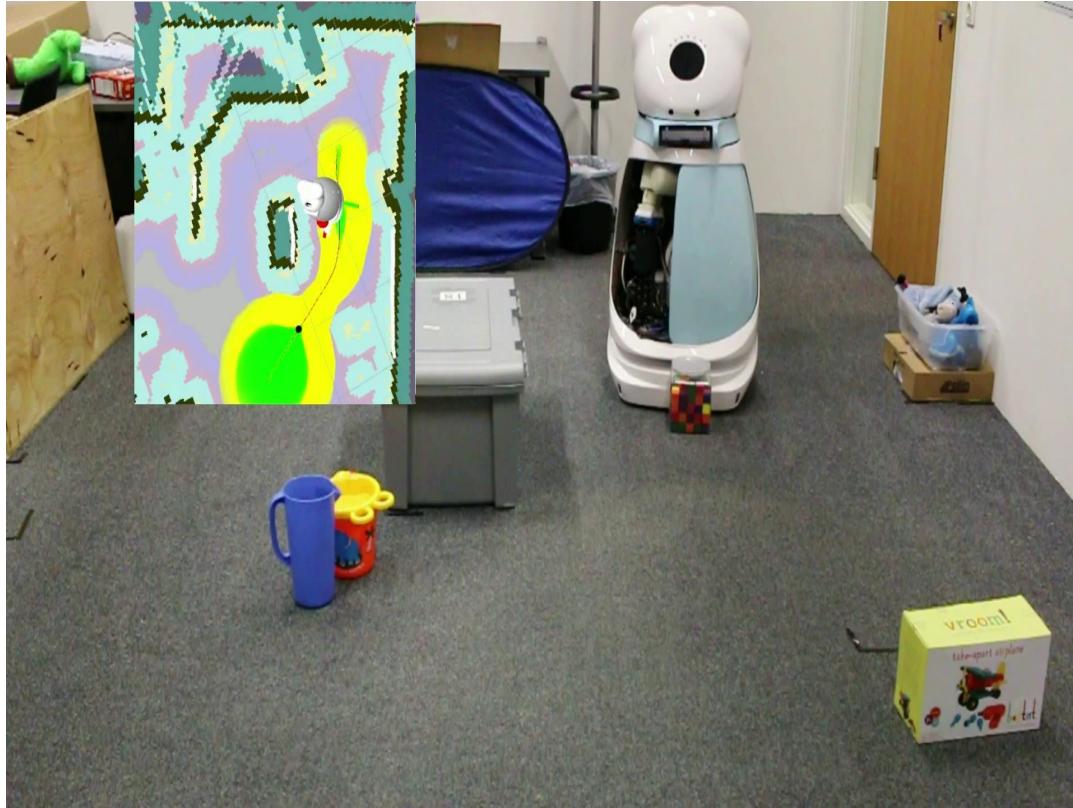


*Scene iz filma "Robot and Frank"*

*Integracija robota u svijet "običnih" ljudi  
Izazovi iz stvarnog svijeta:*

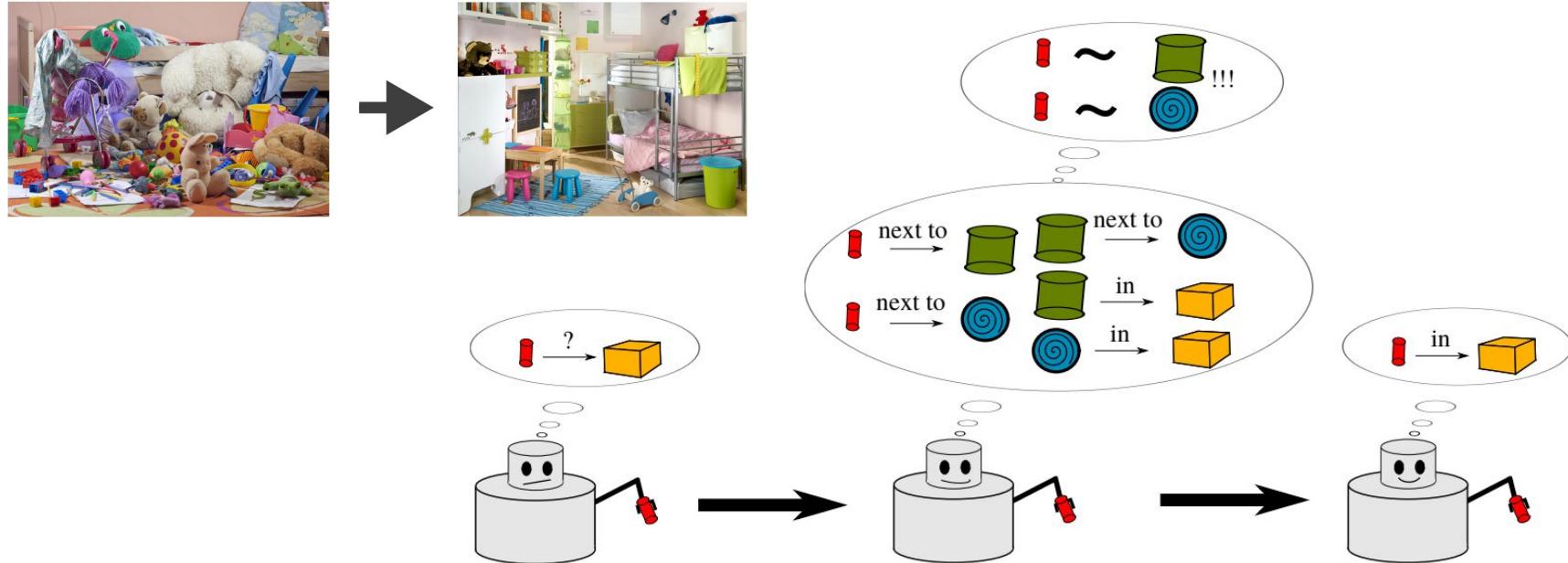
- *Djelimično poznat i dinamičan svijet*
- *Kompleksnost i neizvjesnost*
- *Istraživanje i posmatranje su skupi*
- *Sigurnost i poudanost*

# Vještina guranja nepoznatih objekata



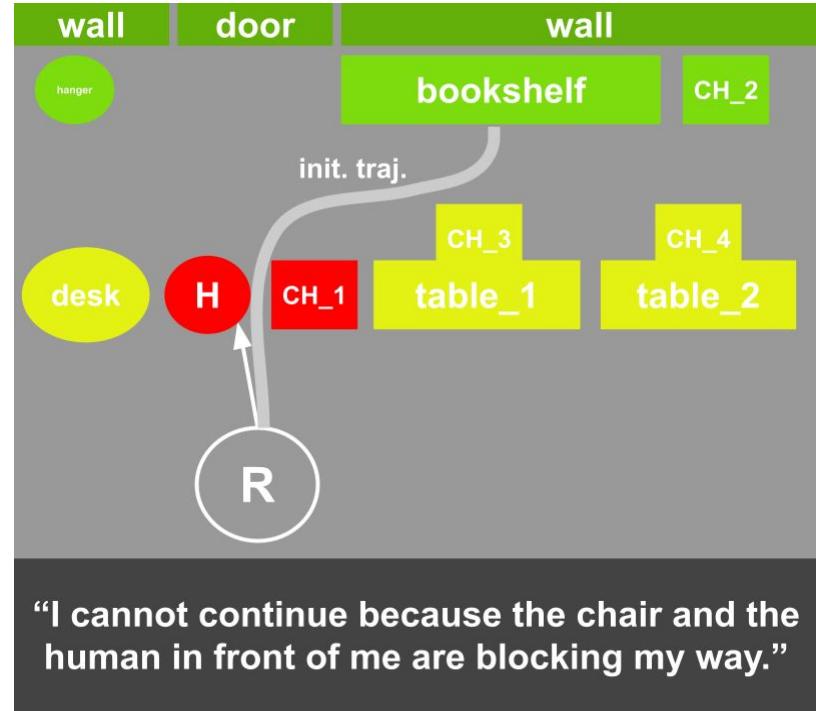
Senka Krivic and Justus  
Piater, Autonomous Robots  
2018

# Kreiranje sposobnosti asociranje za robote i inteligentne sisteme



Senka Krivic, Michael Cashmore, Daniele Magazzeni, Bram Ridder, Sandor Szedmak, and Justus Piater. Decreasing Uncertainty in Planning with State Prediction, In International Joint Conference on Artificial Intelligence. IJCAI, 2017, Melbourne, Australia

# Objašnjava ponašanja robota i traženje pomoći



# *Agenda*

- *Moj put*
- *Šta ja zapravo radim*
- *Kako postati robotičar*

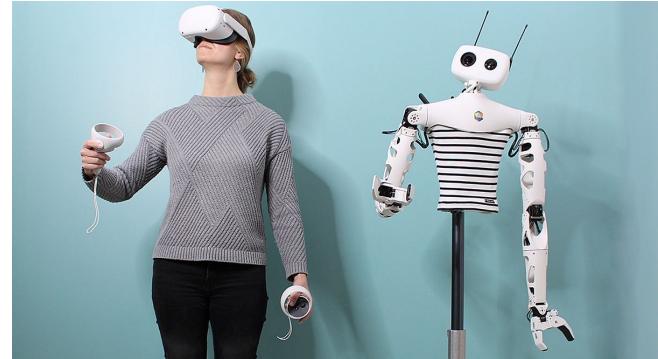


# Kako se sve može baviti robotikom?



Industrija

Istraživanje



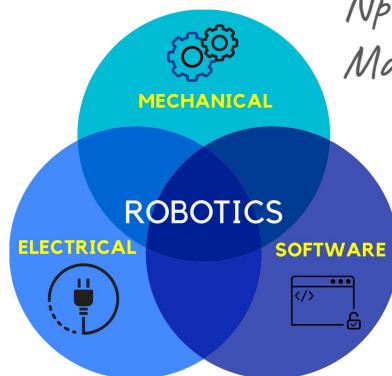
Startup



Stanford

# Edukacija za robotičara

Npr. Automatika i Elektronika  
Elektrotehnički fakultet

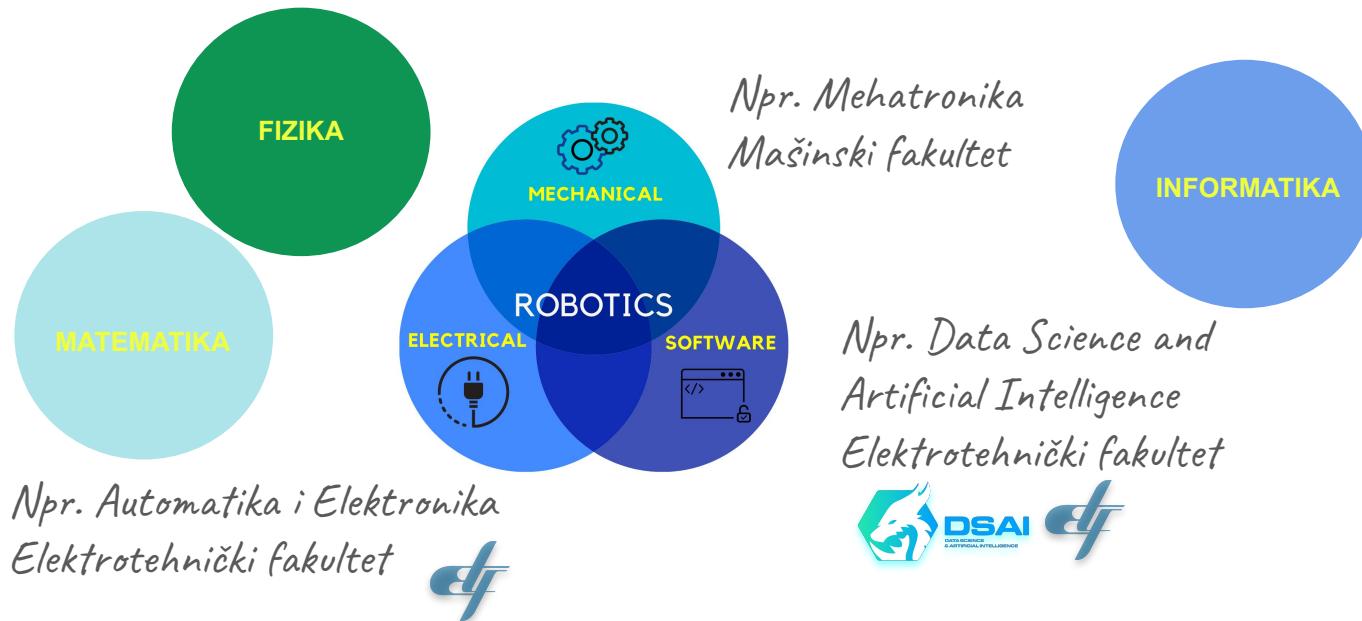


Npr. Mehatronika  
Mašinski fakultet

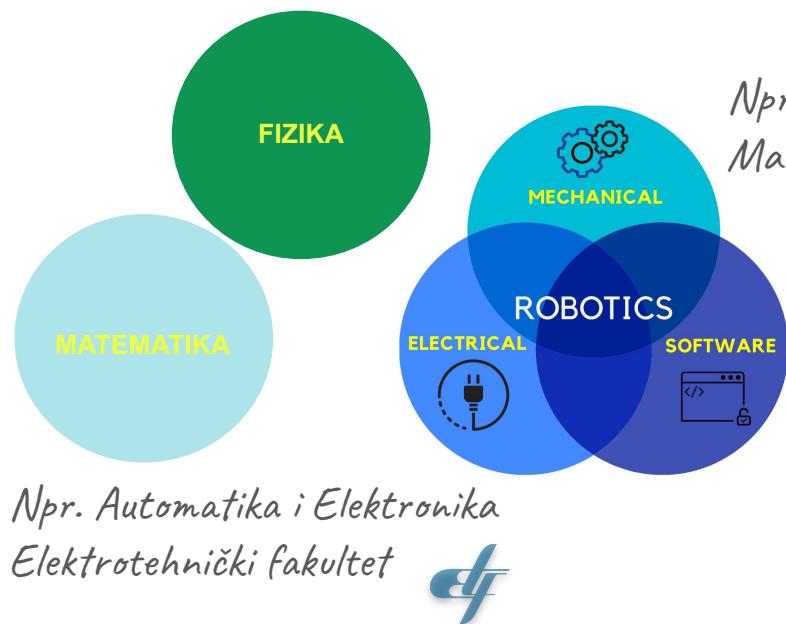
Npr. Data Science and  
Artificial Intelligence  
Elektrotehnički fakultet



# Edukacija za robotičara

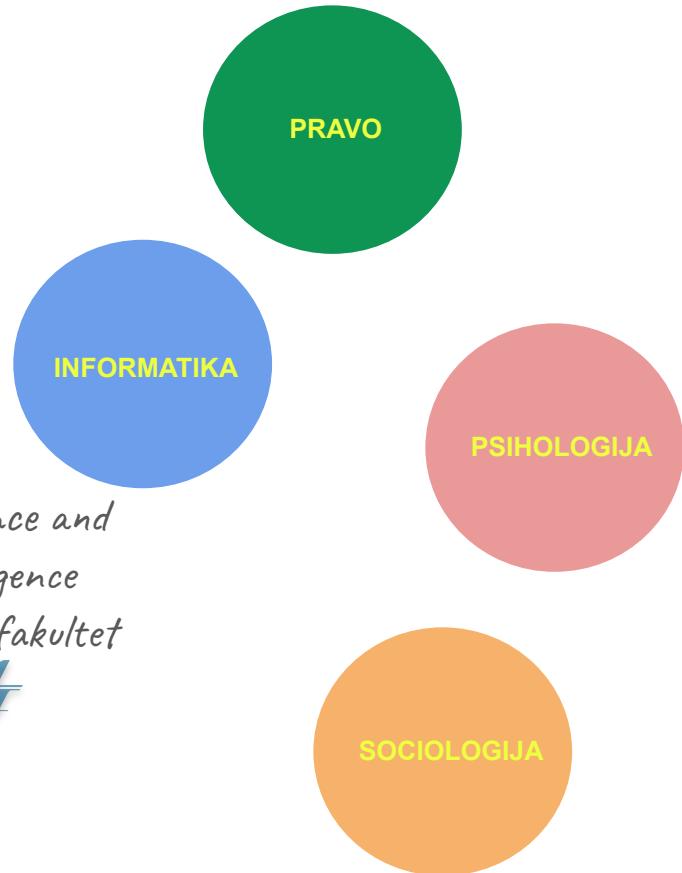


# Edukacija za robotičara



*Npr. Mehatronika  
Mašinski fakultet*

*Npr. Data Science and  
Artificial Intelligence  
Elektrotehnički fakultet*



Hvala na pažnji!



Senka Krivić, PhD

[senka.krivic@etf.unsa.ba](mailto:senka.krivic@etf.unsa.ba)