# Olzhas Adiyatov

48/1 Zheltoskan, Apt. 35 – Z10P0A0 Astana, Kazakhstan

+7 (777) 626 6725  •  ✉ olzhas.adi@gmail.com  •  olzhas

https://www.youtube.com/user/OlzhasAdi/videos

## Education

**Nazarbayev University** — **Astana, Kazakhstan**
*MSc in Robotics, GPA: 3.93/4.0* — *2016–2018*

**Nazarbayev University** — **Astana, Kazakhstan**
*BSc in Robotics and Mechatronics, GPA: 3.76/4.0* — *2011–2015*
**Graduation Project:** SafeSpace project: Path/motion planning for industrial manipulator in the presence of dynamic obstacles.

## Experience

**Advanced Robotics and Mechatronics Systems (ARMS) Laboratory**
Nazarbayev University — **Astana, Kazakhstan**
*Research Assistant* — *Nov 2015–Present*
- Research in motion planning
- Assistance in software development (C/C++, GNU/Linux)

**Makeblock Co., Ltd** — **Shenzhen, China**
*Intern* — *Jun 2016–Jul 2016*
- Worked on an improvement of control strategy of a self balancing robot assembled from parts of the Makeblock robot construction kit.

**Dynamics and Control Laboratory**
Singapore University of Technology and Design — **Singapore**
*Visiting Researcher* — *Jul 2015–Oct 2015*
- Implemented real-time PD controller in C++ for Raspberry Pi
- Wrote EMG acquisition and post-processing utility based on Bitalino in MATLAB

**Advanced Robotics and Mechatronics Systems (ARMS) Laboratory**
Nazarbayev University — **Astana, Kazakhstan**
*Undergraduate Researcher* — *Jun 2012–Jul 2015*
- Developed MATLAB Sampling-based path/motion planning toolbox (https://goo.gl/I4k2T6)

### Teaching

**Department of Robotics, Nazarbayev University** — **Astana, Kazakhstan**
*Teaching Practicum* — *Aug 2016–Nov 2016*
- Contributed to the development of the Robot Motion Planning course and helped students with the installation of Open Motion Planning Library.

**Department of Robotics, Nazarbayev University** — **Astana, Kazakhstan**
*Undergraduate Teaching Volunteer* — *Fall 2013*
Assisted Laboratory sessions on Electrical Circuits I.

### Professional service

**IEEE Transactions on Robotics**
*Peer Reviewer* — *Fall 2016*

**IEEE International Conference on Advanced Intelligent Mechatronics**
*Peer Reviewer* — *Spring 2017*

**IEEE/RSJ International Conference on Intelligent Robots and Systems**
*Peer Reviewer* — *Spring 2017*

**Springer Journal of Intelligent & Robotic Systems**
*Peer Reviewer* — *Fall 2017*

## Publications

[1] **O. Adiyatov** and H. A. Varol, "Rapidly-exploring random tree based memory efficient motion planning," in *2013 IEEE International Conference on Mechatronics and Automation (ICMA)*, pp. 354–359, 2013.

[2] D. Braun, S. Apte, **O. Adiyatov**, A. Dahiya, and N. Hogan, "Compliant actuation for energy efficient impedance modulation," in *2016 IEEE International Conference on Robotics and Automation (ICRA)*, pp. 636–641, IEEE, 2016.

[3] **O. Adiyatov**, K. Sultanov, O. Zhumabek, and H. A. Varol, "Sparse tree heuristics for rrt* family motion planners," in *Advanced Intelligent Mechatronics (AIM), 2017 IEEE International Conference on*, pp. 1447–1452, IEEE, 2017.

[4] B. Nurimbetov, **O. Adiyatov**, S. Yeleu, and H. A. Varol, "Motion planning for hybrid uavs in dense urban environments," in *Advanced Intelligent Mechatronics (AIM), 2017 IEEE International Conference on*, pp. 1627–1632, IEEE, 2017.

[5] **O. Adiyatov** and H. A. Varol, "A novel RRT*-based algorithm for motion planning in dynamic environments," in *Mechatronics and Automation (ICMA), 2017 IEEE International Conference on*, pp. 1416–1421, IEEE, 2017.

[6] A. Zhakatayev, B. Rakhim, **O. Adiyatov**, A. Baimyshev, and H. A. Varol, "Successive linearization based model predictive control of variable stiffness actuated robots," in *Advanced Intelligent Mechatronics (AIM), 2017 IEEE International Conference on*, pp. 1774–1779, IEEE, 2017.

## Technical skills

**Programming**: C, C++11, OMPL (Open Motion Planning Library), MATLAB/Simulink, DART (Dynamic Animation and Robotics Toolkit), Eigen, CMake, Qt Creator, gdb, git, Python, Assembly Languages (Intel and Microchip PIC)

**Computer Aided Design**: SolidWorks, EAGLE, Altium Designer

**Operating Systems**: GNU/Linux (Ubuntu/Debian, CentOS, Gentoo), Windows

**Others**: ROS, 3D Printing (Objet Connex260, Up 3D printer, MakerBot Replicator 2X), PCB Prototyping (LPKF), BeagleBone Black, Raspberry Pi, Mechanical and Electrical Workshop Machines and Tools, LaTeX, MathCAD

## Languages

**English**: Fluent (TOEFL iBT: 105)

**Russian & Kazakh**: Native

## Scholarships and Awards

**Ministry of Education of Republic of Kazakhstan Scholarship for Master's degree 2016-2018**: Covered tuition fee

**Internships in China's Innovative Enterprises**:
1 month internship in Makeblock Ltd. Shenzhen, China
funded by Shakhmardan Yessenov Science and Education foundation covered accommodation expenses and daily allowances

**Ministry of Education of Republic of Kazakhstan Scholarship for Bachelor degree 2010-2015**: Covered tuition fees and accommodations expenses

## Extracurricular activities

**Korean Club, Nazarbayev University** <span style="float:right">**Astana**</span>
*President* <span style="float:right">*Apr 2011–Nov 2014*</span>

## References

- Huseyin Atakan Varol, PhD, *Department Chair, Nazarbayev University*     ahvarol@nu.edu.kz
- Vassilios D. Tourassis, PhD, *Dean, Nazarbayev University*     vassilios.tourassis@nu.edu.kz
- Altay Zhakatayev MSc, *Instructor, Nazarbayev University*     azhakatayev@nu.edu.kz
- Peter Li, *Overseas Marketing Manager, MakeBlock*     peter@makeblock.com