

# Olzhas Adiyatov

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

## Education

<b>Nazarbayev University</b> <i>MSc in Robotics, GPA: 3.95/4.0</i>	<b>Astana, Kazakhstan</b> 2016–2018
<b>Nazarbayev University</b> <i>BSc in Robotics and Mechatronics, GPA: 3.76/4.0</i> <b>Graduation Project:</b> SafeSpace project: Path/motion planning for industrial manipulator in the presence of dynamic obstacles.	<b>Astana, Kazakhstan</b> 2011–2015

## Experience

<b>Advanced Robotics and Mechatronics Systems (ARMS) Laboratory</b> Nazarbayev University <i>Research Assistant</i> <ul style="list-style-type: none"><li>- Research in motion planning</li><li>- Assistance in software development (C/C++, GNU/Linux)</li></ul>	<b>Astana, Kazakhstan</b> Nov 2015–Present
<b>Makeblock Co., Ltd</b> <i>Intern</i> <ul style="list-style-type: none"><li>- Worked on an improvement of control strategy of a self balancing robot assembled from parts of the Makeblock robot construction kit.</li></ul>	<b>Shenzhen, China</b> Jun 2016–Jul 2016
<b>Dynamics and Control Laboratory</b> Singapore University of Technology and Design <i>Visiting Researcher</i> <ul style="list-style-type: none"><li>- Implemented real-time PD controller in C++ for Raspberry Pi</li><li>- Wrote EMG acquisition and post-processing utility based on Bitalino in MATLAB</li></ul>	<b>Singapore</b> Jul 2015–Oct 2015
<b>Advanced Robotics and Mechatronics Systems (ARMS) Laboratory</b> Nazarbayev University <i>Undergraduate Researcher</i> <ul style="list-style-type: none"><li>- Developed MATLAB Sampling-based path/motion planning toolbox (<a href="https://goo.gl/l4k2T6">https://goo.gl/l4k2T6</a>)</li></ul>	<b>Astana, Kazakhstan</b> Jun 2012–Jul 2015

## Teaching

<b>Department of Robotics, Nazarbayev University</b> <i>Teaching Practicum</i> <ul style="list-style-type: none"><li>- Contributed to the development of the Robot Motion Planning course and helped students with the installation of Open Motion Planning Library.</li></ul>	<b>Astana, Kazakhstan</b> Aug 2016–Nov 2016
<b>Department of Robotics, Nazarbayev University</b> <i>Undergraduate Teaching Volunteer</i> Assisted Laboratory sessions on Electrical Circuits I.	<b>Astana, Kazakhstan</b> Fall 2013

## Professional service

<b>IEEE Transactions on Robotics</b> <i>Peer Reviewer</i>	Fall 2016
<b>IEEE International Conference on Advanced Intelligent Mechatronics</b> <i>Peer Reviewer</i>	Spring 2017
<b>IEEE/RSJ International Conference on Intelligent Robots and Systems</b> <i>Peer Reviewer</i>	Spring 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, Java, 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**

*President*

**Astana**

*Apr 2011–Nov 2014*

## 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