

# Tamás Titusz Bán

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## Education

<b>Technical and Theoretical</b>	<b>University of Leeds</b> BEng/MEng Mechatronics and Robotics, (2016-)	
<b>Hands on</b>	<b>Year 2</b> modules: <ul style="list-style-type: none"><li>· Mechatronics and Robotics Systems</li><li>· Vibration and Control</li><li>· Electronic Circuit Design</li><li>· Artificial Intelligence</li><li>· Design and Manufacture 2</li><li>· Mobile Applications Project</li><li>· Embedded Systems Project</li></ul>	<b>Year 1</b> module results: <ul style="list-style-type: none"><li>· <b>Overall – 1st</b> (weighted average: 84%)</li><li>· Digital electronics and Microcontrollers – <b>1st</b> (94%)</li><li>· Physical electronics – <b>1st</b> (85%)</li><li>· Engineering mathematics – <b>1st</b> (85%)</li><li>· Circuit analysis and Design – <b>1st</b> (89%)</li><li>· Further engineering mathematics – <b>1st</b> (92%)</li><li>· Circuit Theory – <b>1st</b> (80%)</li><li>· Design and manufacture – <b>1st</b> (79%)</li><li>· Solid mechanics – <b>1st</b> (71%)</li></ul>
<b>Project based</b>		
<b>Teamwork based</b>	Societies: <ul style="list-style-type: none"><li>· ShockSoc</li><li>· Ultimate Frisbee</li></ul>	
<b>Academic and soft-skill focused</b>	<b>Alternative Secondary School of Economics</b> Budapest, Hungary (2009-2016)	
<b>Free thinking</b>	Advanced level final exams (equivalent of A-levels) <ul style="list-style-type: none"><li>· <b>Overall grade: 94% - 5</b> (excellent)</li><li>· Maths: 94% - A*</li><li>· Physics: 94% - A*</li><li>· Computer science: 95% - A*</li><li>· English: 96% - A*</li></ul>	Multiple societies, including: <ul style="list-style-type: none"><li>· Robotics</li><li>· Astronomy</li><li>· Stage crew and video production</li></ul>

## Experience

<b>Professionalism</b>	<b>Computer Science intern</b> , Cambridge Consultants (2017)
<b>Teamwork</b>	<ul style="list-style-type: none"><li>· As part of the software team I got to work on real, internal projects. I was also given the opportunity to be software lead on multiple projects, where I was in charge of the design and implementation of the software of entire projects.</li></ul>
<b>Communication</b>	<ul style="list-style-type: none"><li>· I got to work on a broad range of areas including: VR, Machine Vision, Machine Learning, Drones, Embedded controllers, Robotics, Network communication and more.</li></ul>
<b>Market awareness</b>	<ul style="list-style-type: none"><li>· I was also asked to consult on the testing of a client medical project.</li></ul>
<b>Consulting</b>	<b>President</b> , ShockSoc, Leeds University Union (2017-2018)
<b>Leadership</b>	<ul style="list-style-type: none"><li>· I was elected as the president of the Electronic and Electrical Engineering society, ShockSoc</li><li>· My tasks include: organising and managing the society, overseeing the organisation of socials and events, designing public image and graphics, managing social media and chairing meetings. I also work on organising and directing our robot fighting competition, Robot Fighting League.</li></ul>
<b>Organisation</b>	<b>Course rep</b> , Level 1, MEng/BEng Mechatronics and Robotics (2016-2017)
<b>Team-management</b>	<ul style="list-style-type: none"><li>· Elected to represent over 60 course mates towards the academic staff and the university</li></ul>
<b>Representation</b>	<ul style="list-style-type: none"><li>· I got to participate in Student-Staff forums where I contributed towards improving our course, and university experience</li></ul>
<b>Self-management</b>	<ul style="list-style-type: none"><li>· I was nominated for a Partnership award, as Academic Rep of the year</li></ul>
<b>Time-management</b>	<b>Volunteering</b>
<b>Social awareness</b>	<ul style="list-style-type: none"><li>· Over 50 hours with different charities, including Hungarian Red Cross</li></ul>

## Projects (See more details and projects on tituszban.com)

<b>Problem solving</b>	<b>Automated drone delivery system demo</b> (at Cambridge Consultants; Python; 2017)
<b>Creative thinking</b>	<ul style="list-style-type: none"><li>· <b>Role:</b> <i>Software lead</i>; <b>Tasks:</b> development of vision code, pattern recognition, integration and interfacing between various systems, including the flight computer, the primary controller, the camera, winch control, lidar, and others</li></ul>
<b>Analytic approach</b>	<b>Smart recycling station</b> (at Cambridge Consultants; Python; 2017)
<b>Algorithmic thinking</b>	<ul style="list-style-type: none"><li>· <b>Role:</b> <i>Software and electronics lead</i>; <b>Task:</b> design and implementation of the item classifying vision system and neural-network, design and build of the electronics system inside the prototype.</li><li>· Project was reported on by Engadget and IBTimes and it was exhibited at DrinkTec in Munich, Germany.</li></ul>
<b>Cross disciplinary</b>	<b>Voice controlled virtual reality design review software</b> (at Cambridge Consultants; C#; 2017)
<b>Project management</b>	<ul style="list-style-type: none"><li>· <b>Role:</b> <i>developer</i>; <b>Task:</b> VR implementation of the project in Unity, synchronisation of multiple VR CAD and visualiser optimisation to be suitable for Google Cardboard.</li></ul>
<b>Software design</b>	<b>Remote controlled buggy project</b> (at UoL; Python, C++; 2017)
<b>Mechatronics design</b>	<ul style="list-style-type: none"><li>· <b>Role:</b> <i>Project lead</i>; <b>Tasks:</b> system and circuit design, software development, project implementation oversight</li></ul>
<b>Mechanical design</b>	<b>Self-driving LEGO car</b> (MATLAB/Octave, Python, C#; 2016)
<b>Electronics design</b>	<ul style="list-style-type: none"><li>· Using machine learning and image processing, with combining multiple languages</li></ul>
<b>Integration</b>	<b>Genetic danger avoidance robot</b> (Python; 2016)
	<ul style="list-style-type: none"><li>· Genetic matrix optimisation with pre-physical and physical evaluation</li></ul>
	<b>Bio arm build with simulation and Kinect sensor motion study</b> (at UoL; MATLAB/Octave, C#; 2017)
	<ul style="list-style-type: none"><li>· Arm to throw a ball, based on the human arm, supported by kinematic simulation.</li></ul>

# Skills

<p><b>C#, Python, C++</b></p> <p><b>Self-taught</b></p> <p><b>Embedded programming</b></p> <p><b>Computer Vision</b></p> <p><b>Genetic programming</b></p> <p><b>Machine Learning</b></p> <p><b>App development</b></p>	<p><b>Programming, software development</b></p> <ul style="list-style-type: none"> <li>Professional proficiency:</li> <li><b>C#, Python, C++, MATLAB/OCTAVE</b></li> <li>Limited working proficiency:</li> <li>LabView, Objective-C, LUA, Java, HTML</li> <li>Self-taught, can easily adopt to any new language</li> <li>Hands on, project based experience in:</li> <li>Supervised Machine Learning</li> <li>Genetic programming</li> <li>Computer vision</li> <li>Embedded Programming</li> <li>App development</li> </ul>	<p><b>3D design</b></p> <ul style="list-style-type: none"> <li>Solidworks, 3D Studio Max</li> </ul> <p><b>3D printing</b></p> <p><b>Microsoft Office</b> (proficient)</p> <p><b>Online courses</b></p> <ul style="list-style-type: none"> <li>Machine Learning, Stanford University</li> <li>Control theory, Georgia Institute of Technology</li> <li>Introduction to Computer Vision, Georgia Tech</li> <li>NAND to Tetris, University of Jerusalem</li> </ul>
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# Achievements

<p><b>Multidisciplinary</b></p> <p><b>Academic</b></p> <p><b>Scholarships</b></p> <p><b>Awards</b></p> <p><b>Competitions</b></p>	<p><b>Dean of Engineering excellence scholarship (2016 -)</b> – University of Leeds</p> <p><b>Dean's List award (2017)</b> – University of Leeds</p> <p><b>First Lego League (2015 - 16)</b> – National 1st, Regional 2nd, first ever Hungarian team at World Championship</p> <p><b>'Outstanding Performance'</b> in Mathematics in (A-level equivalent) final exam (2016)</p> <p><b>'Outstanding Performance'</b> in History and Literature in (GCSE equivalent) final exam (2016)</p> <p><b>Financial aid for academic excellence (2012 - 2016)</b> – Alternative Secondary School of Economics</p> <p><b>BeeSmarter 24-hour programming competition** (2014)</b> – 3rd place</p> <p><b>&lt;19 freestyle programming competition (2014)</b> – Winner</p> <p><b>Hungarian Templeton Program (2016)</b> – Junior Fellow</p> <p><b>Antal Bejcy robotics competition** (2015)</b> – 2nd place</p> <p><b>XPrize After Earth challenge (2014)</b> – 3rd place</p> <p><b>Gyorgy Kulin national astronomy competition (2015)</b> – 6th place</p> <p><b>MANT astronomy competition (2013)</b> – 2nd place</p> <p><b>Young Enterprise: student company of the year (2014)</b> – 2nd place</p> <p><b>FutureGen Business Expo (2014)</b> – Recognition for excellent company (for game development)</p> <p><b>Leeds beginners Ultimate Frisbee tournament (2016)</b> – 3rd place</p> <p>**with a high school team in a university level competition</p>
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# Other experience

<p><b>Communication</b></p> <p><b>Self-management</b></p> <p><b>Time-management</b></p> <p><b>Mentoring</b></p> <p><b>Organisation</b></p> <p><b>Teaching</b></p> <p><b>Presentation</b></p> <p><b>Creative design</b></p> <p><b>Dedication</b></p>	<p><b>Rider</b> – Deliveroo (2017-)</p> <ul style="list-style-type: none"> <li>As a rider, my responsibility was, to deliver orders from restaurants to costumers.</li> <li>This requires effective communication with both fellow staff, customers and the restaurants, self- and time management and maintaining excellent level of customer service.</li> </ul> <p><b>First Lego League coach</b> (2014-2016)</p> <ul style="list-style-type: none"> <li>1st place on Hungarian qualifier, with best robot design, project and robot game</li> <li>6th place on European final, Qualified and attended World Championship in St Louis, USA</li> </ul> <p><b>STEM Ambassador</b> (2012-2016)</p> <ul style="list-style-type: none"> <li>Mentored others in STEM subject including maths, physics, and programming</li> <li>Assistant teacher for Robotics society for 3 years, Astronomy society for 1 year</li> <li>Presenting in front of teachers and companies on technology and education</li> <li>Organising events and engagement or outreach programs</li> </ul> <p><b>Game developer</b> (2013-2016)</p> <ul style="list-style-type: none"> <li>Developed multiple games for both PC and mobile platforms, participated in numerous game jams</li> <li>Developed a game for Levego, a Hungarian non-profit environmentalist organisation</li> </ul> <p><b>Work shadowing</b> – Eötvös Loránd University, Faculty of Informatics (2013)</p> <ul style="list-style-type: none"> <li>Shadowed the work of a lecturer and robotics laboratory supervisor at the Hungarian Eötvös Loránd University</li> </ul>
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# Languages

<p><b>Hungarian</b></p> <ul style="list-style-type: none"> <li>native language</li> </ul> <p><b>English</b></p> <ul style="list-style-type: none"> <li>professional proficiency</li> <li>IELTS overall 8.0</li> </ul>	<p><b>German</b></p> <ul style="list-style-type: none"> <li>limited working proficiency</li> <li>Goethe Institut, B2 exam</li> </ul>
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# References

<p><b>Dr. Nutapong Somjit</b> – Personal Tutor Faculty of Electrical Engineering University of Leeds N.Somjit@leeds.ac.uk +44 (0) 113 343 8207</p>	<p><b>Jake Turner</b> – Line manager Software group leader, ICE Cambridge Consultants jake.turner@cambridgeconsultants.com +44 (0) 1223 392 250</p>
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