



Japan as I see

Arun Dayal Udai, Ph. D Scholar, Mechanical Engineering, IIT Delhi

Supervisor: Prof. S. K. Saha



Day 0-1

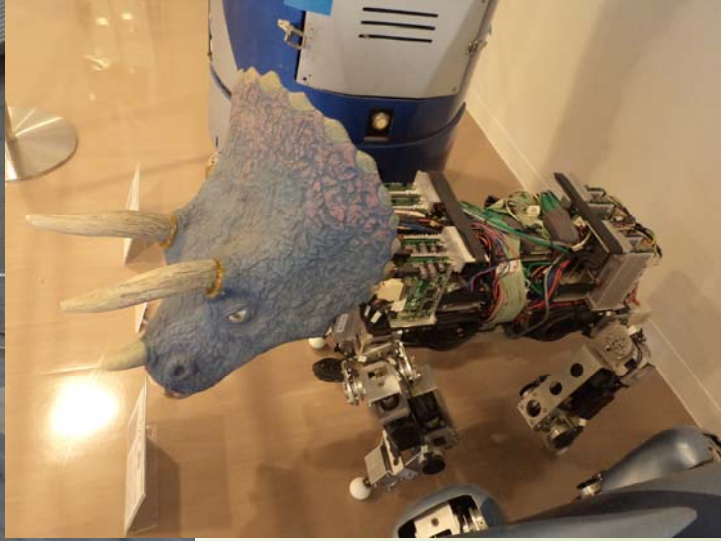
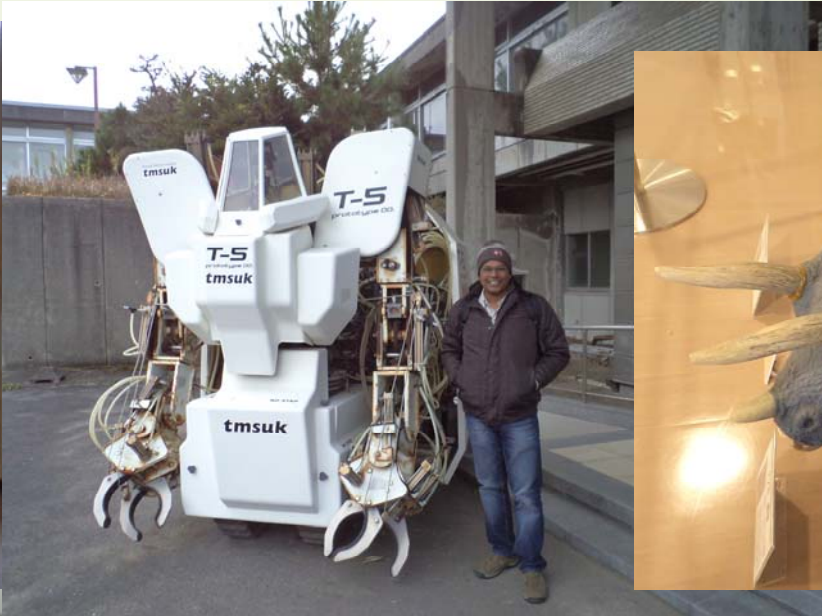
- Welcomes by Prof. Takafumi Matsamaru, Mechanical Engineering, Waseda IPS, Japan and his MS Student from China Mr. Jiang at Fukuoka Airport.
- Received 42,880 Japanese Yen towards my stay, travel and daily allowance for meals for remaining 18 days.
- Received detailed plan for our activities (Industrial tours, University visit, Conference participation etc.)
 - Included Maps, Bus route maps with fares, refreshment, shopping locations etc.
- Detailed travel and standard social arrangements at Bus service, Japanese railway etc. during travel to our guest house/hotel.

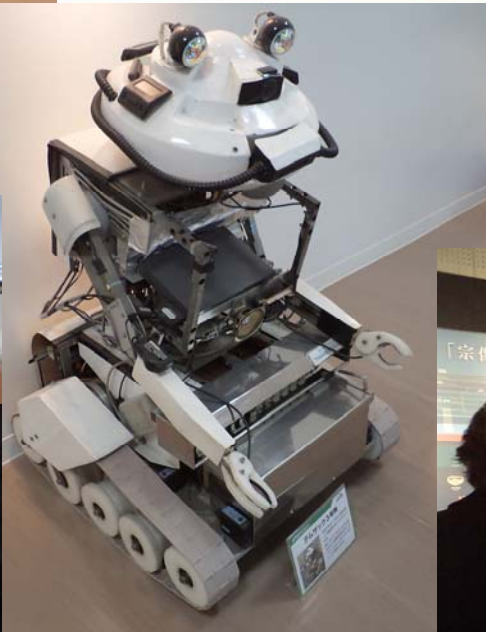




Day 1

- ▶ Students working under Prof. Matsamaru showed their works through brief presentations
- ▶ Prof. Saha introduced IIT Delhi and his work at different Labs. (especially Mechatronics and PAR Lab.)
- ▶ Visited 'tmsuk' a manufacturing industry
 - ▶ Welcomed by its Director Mr. Yoichi Takamoto
 - ▶ Prof. Saha, Prof. Matsamaru and Mr. Yoichi showed their works through brief PPTs.
 - ▶ Saw robots like, rescue robots, innovative wheel chair system, cell operated home vigilance system, dentist training robot, KIMORI – Biped, pre-hospital care robot, etc.
- ▶ Visited museum @ MUNAKATA which also demonstrated robots and video demonstration on ancient Japanese people, their cultures at Island near Munakata.



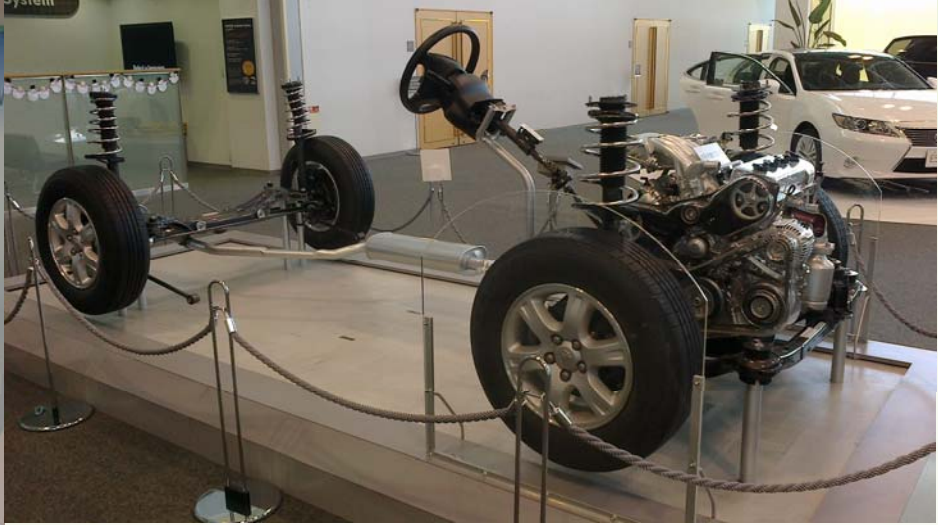


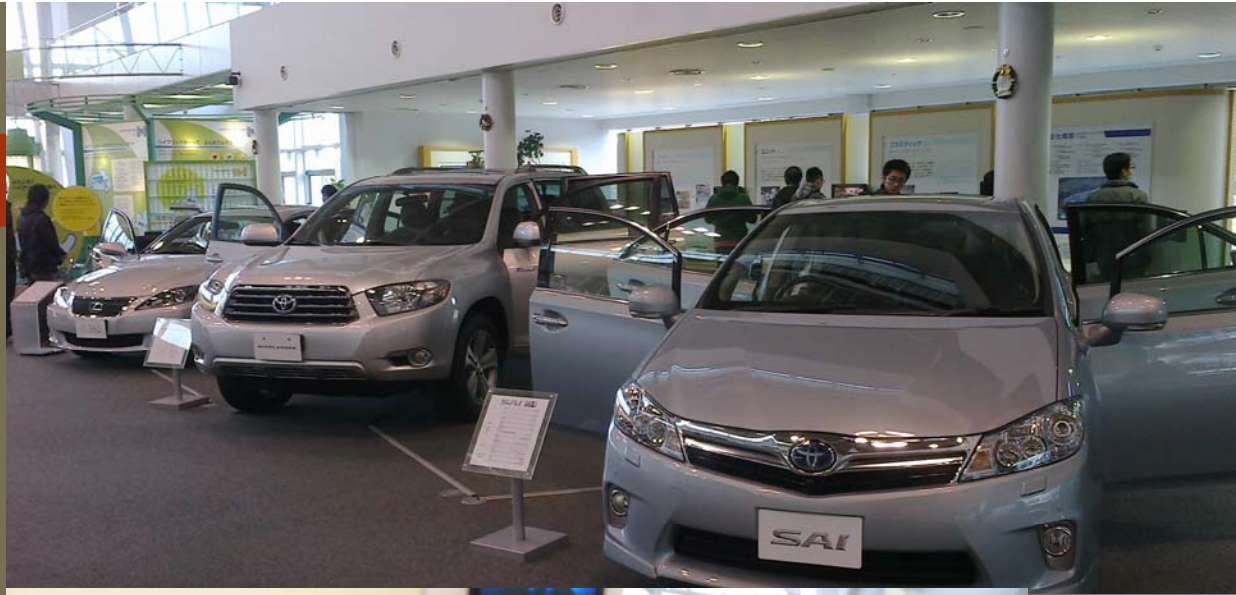




Day 2

- ▶ Visited TOYOTA KYUSHU Plant and Museum
 - ▶ Sectioned Hybrid engines and Car System
 - ▶ Video demonstrations of its production system, welding, body making and painting.
 - ▶ 2-GR-FE Engine, dashboard, hybrid drive, material handling, working model of entire engine assembly, Human unit vehicle, robots in operation
- ▶ Visited TOYOTA Training center
 - ▶ Load test of industrial shoes, short videos
 - ▶ Training system and priorities
 - ▶ Paraffin dip of hands, painting, mechanisms for automation and safe handling







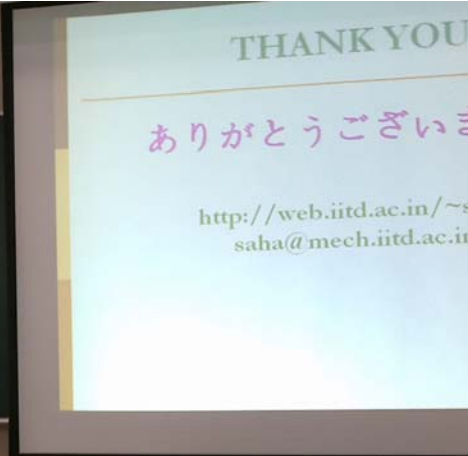
Day 3

- ▶ Visited Prof. Makoto Iwamura Lab. at Fukuoka University.
 - ▶ Students demonstrated their work
 - ▶ Huge hydraulic Stewart platform based simulator
 - ▶ Flexible two arm mechanism and its control
 - ▶ Minimum control energy in multibody systems using springs and gravity
 - ▶ Passive joint mechanisms
 - ▶ Sumo wrestlers biped
- ▶ Prof. Saha delivered his lecture "17 Years of DeNOC based modeling and its use in MuDRA", in Japanese to students at Fukuoka university
- ▶ Prof. Saha gave his books, RoboAnalyzer CD and Invited them for iNaCOMM 2013 and AiR – 2013, Pune Conference
- ▶ Prof. Iwamura gave his papers copy and detailed about the robotics activities at Fukuoka University




Day 3

- ▶ Visited 'RoboSquare' robot shop and museum
 - ▶ Bought 3 small bipeds which were driven by just 1 motor.
 - ▶ Spares for different robots, life sized humanoid robot, i-Robot, competition robots, magazines etc.
- ▶ Had dinner at one of the best Japanese restaurant and had lessons from Prof. Matsamaru to use chopsticks.
- ▶ Visited Fukuoka Tower

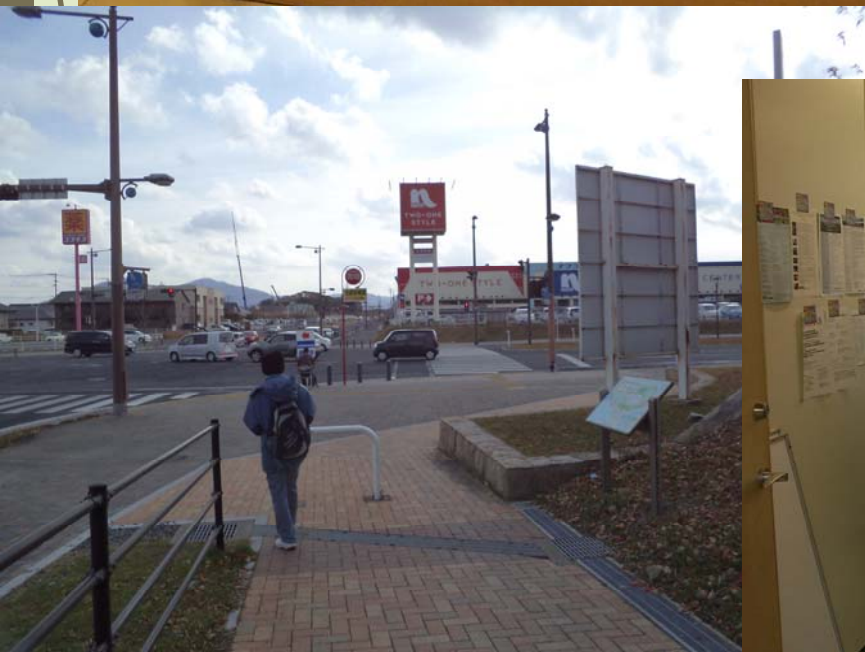






Day 4-5-6

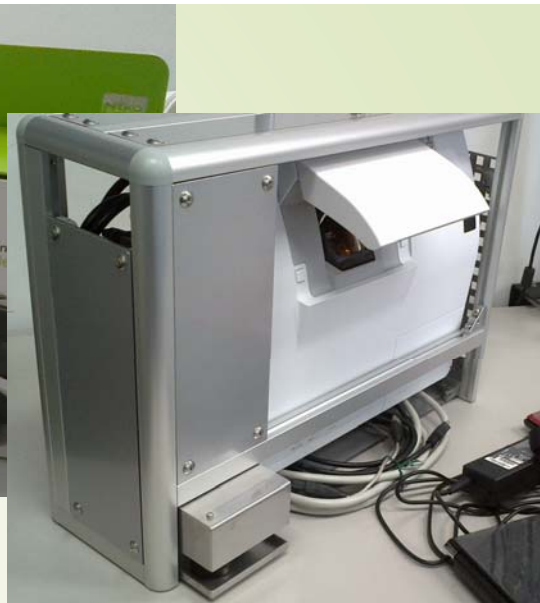
- ▶ Saturday-Sunday: Observed the nearby locality
 - ▶ City had a vision to be developed as a technical hub for advanced research like robotics etc.
 - ▶ City is meant for all classes of people, road sides, elevator system, stairs etc.
 - ▶ Bus with coin dispenser, small cars.
 - ▶ Discipline: Crossing the road, railways queues etc.
- ▶ Visited nearby shopping complex
- ▶ Monday: Visited Prof. S. Kamata lab (Peking University Lab.)
 - ▶ Projects on Vision and Image procession
 - ▶ Medicine detection
 - ▶ Reader robot with speech synthesizer
 - ▶ Security system robot





Day 7

- ▶ Attended classes on 'Robotics' and 'Bio-Robotics' by Prof. T. Matsamaru, Waseda IPS University
 - ▶ Biomaterials, bio-functionality, bioengineering practice, heart dynamics etc.
- ▶ Prof. Saha delivered a lecture on 'Can we collaborate?'
- ▶ Visited Prof. Matsamaru's home



Day 8

- ▶ Visited TOTO Industry
 - ▶ Ceramic processing, Painting robots
- ▶ Saha Sir left for Korea





Day 9

- ▶ Coded for 'hokuyo' (URG04LX) Laser range sensor interfacing using C#
- ▶ Coded using OpenCV to generate image using Hitachi desktop projector



IPS 学生相談室 COUNSELING ROOM



場所: IPS研究センター2F
入口を入って事務室の上の部屋です。
Place: 2nd floor of IPS Research

よりよい学生生活を送るために

「いろんな人と友達になりたい」、「将来、国際的に活躍したい」、夢や希望を胸にIPSには世界各地から学生が集まっています。大学院生活はあらゆることに挑戦できる自由と可能性を秘めています。自分の世界を広げて行くチャンスといえるでしょう。一方、そんな時期だからこそ、不安やストレスを感じてしまうことも多いかもしれません。カウンセリングルームでは学生生活を送っていく上での様々な不安やストレスと上手に付き合っていくことができるように、皆さんをサポートしています。お気軽にお越し下さい。

For a better student life

"I want to get better at Japanese(English)", "I want to make friends with people from many countries", "In future, I want to succeed in the international arena". Full of dreams and hope, students gather at IPS from all around the world. In every respect, the challenges of university life contain both hidden potential and freedom. There are many exciting chances to expand your world. At the same time, there are also many situations where you are likely work through the stress and anxieties of new life. Please feel free to come and talk to us whenever you like.

例えば:

- * 友達がいない、居場所がない
- * とにかく勉強が忙しくて精神的に追い詰められた感じ
- * イライラして落ち着かない、眠れない
- * 自分のことをもっとよく知りたい
- * 意欲減退、ホームシック 何となく学校に行きたくない
- * 人間関係がうまくいか心配 など

For example when you:

- * Have no friends or feel you don't belong
- * Are busy with study and feel pressured
- * Are frustrated and can't relax, can't sleep
- * Wanting to understand more about yourself
- * Lack motivation, or feel homesick
- * No interest in studies
- * Worried about personal relationship with others

相談の申し込み

1. 開室時間中電話で予約
Tel 093-695-3445
2. 開室時間中 直接カウンセリングルームをたずねる
☆月曜日 Mon. 1:00p.m. - 5:00p.m
3. カウンセラー宛てにメールで予約 *注意:メールは開室時間中だけ
カウンセラーが確認し、返事する
☆李 欣暉 カウンセラー: h.lee@kurenai.waseda.jp

How to make an appointment.

1. Call Counseling Room on during Office Hour: Tel 093-695-3445
2. Inquire directly at the Counseling Room during Office Hour:
☆Mon. 1:00p.m. - 5:00p.m
3. E-mail the counsellor to make an appointment
*Notice: mails are only checked and replied by the counsellor during Office Hour
☆Counsellor LEE: h.lee@kurenai.waseda.jp

カウンセラー Counselors

★ 李 欣暉 カウンセラー (LEE Catharina Hsin-Yeh)
女性・台湾 (Female, Taiwanese)
対応言語: 日本語・英語・中国語
(Languages: Japanese, English and Chinese)

☆什么是心理咨詢?

所谓的心理咨詢,并不是指专门以“精神障碍者”为对象,进行的咨詢与援助。我们的人生中,以及我们的成长过程中,经常会遇到诸多的“烦恼”和“不安”,为了帮助你顺利解决人生道路上的诸多烦恼,心理咨詢委员会给你提供一定的指导和帮助。
具体来讲,心理咨詢委员会为被个人或者心理问题等困扰的学生提供一个可以自由谈话的环境和氛围,寻求一个可以疏通你心中的困扰的有效途径,即通过连续性的面谈方式,来帮助你冷静地审视自己,通过加深自我理解来依靠自己的力量减轻心理的不安与痛苦,在解决了你心理问题的同时,帮助你实现预定的目标与理想,同时找到自己在社会中的定位,完成个人的人生升华。

開室&受付時間 Office Hours
☆月曜日 Mon. 1:00p.m. - 5:00p.m

内容の秘密は固く守られますので、ご安心下さい。
Ensured that the matters which are discussed will be kept in strictest confidence. 尊重隐私 保守秘密

Information of lending equipment in IPS
センター(IPS 情報管理室)では、授業支援などのため、機器の貸出しを行っています。
ご利用の際は、IPS情報管理室(N102)にお問い合わせ下さい。
If center lend students to the equipment for the class support etc.
Please feel free to inquire about details to Information Control Room (N102) when you want to borrow it.

機器名 (equipment)	機器写真 (photo)	備考 (note)
プロジェクター(小型) Projector (small type) VPL-CX133(Sony)		明るさ(Brightness): 2,000 LM 重量 (Weight): 2.7kg 電源 (Power): AC100V
プロジェクター(大型) Projector (large type) VPL-FX313(Sony)		明るさ(Brightness): 2,000 LM 重量 (Weight): 5.3kg 電源 (Power): AC100V
ワイヤレスマイク(ハンド型) Wireless microphone (hand type) WM-4000(Panasonic)		乾電池(Dry battery): 7333(単4本) AAA size AAA battery (One piece) 約10時間使用可能 (About 10 hours possible) 重量 (Weight): 41g
パワースピーカー(小型) Public speaker (small type) SP-058(Panasonic)		増幅回路内蔵 (Built-in amplifier) 7W x 2 (1.5W x 2) [Two speakers independently possible] 重量 (Weight): 1.8kg 電源 (Power): AC100V 寸法 (Size): 110mm x 70mm x 20mm 奥行き (Depth): 180mm
パワースピーカー(大型) Public speaker (large type) SP-077(Panasonic)		増幅回路内蔵 (Built-in amplifier) 14W x 2 (7W x 2) [Two speakers independently possible] 重量 (Weight): 11.0kg 電源 (Power): AC100V 寸法 (Size): 250mm x 120mm x 180mm 奥行き (Depth): 230mm

機器名 (equipment)	機器写真 (photo)	備考 (note)
ビデオデッキ (Video deck) NV-VF31 (Panasonic)		VHS-DVD(再生専用) (Playback only) 重量 (Weight): 4kg 電源 (Power): AC100V
ビデオデッキ (Video deck) SR-V530 (Victor)		VHS-DV 重量 (Weight): 5.1kg 電源 (Power): AC100V
オーバヘッドプロジェクター (Over head projector) HP-6005G (Epson)		映写ランプ: 400W (Projection lamp) 重量 (Weight): 12.0kg 電源 (Power): AC100V
スクリーン (Screen) PT-1212 (OS)		30インチ (30 inch) サイズ: 1.2M x 1.2M (Size)
ノートパソコン (Notebook computer) Think Pad T400 (Lenovo)		Windows Vista Business SP2 14.1インチ液晶 (14.1 inch) Office Betriebssystem: 2007 メモリ: 2GB HDD: 160GB






Day 10

- ▶ Prepared for SII, 2012, had mock presentations from different groups participating at SII.
- ▶ Downloaded papers and gone through few papers towards collaborative work suggested by sir.
- ▶ Planned for next three days at SII, 2012
- ▶ Planned for return route on last day.

Day 11: Saturday

- ▶ Cooked rice and watched a Hindi movie, had a small get together at my room with some lab mates



Day 12-14

- ▶ Presented my paper on 'Simulation of Force Control Algorithms'
- ▶ Chaired my Session on 'Industrial Robots and Control'
- ▶ Attended other sessions
 - ▶ Mobile robots, teleoperation, humanoids, assistive robots, space systems, interaction, vision, sensor system etc.
- ▶ Attended keynote by Prof. Mark W. Spong, Texas Univ., Dallas and Dr. Georg Von Wichert, Siemens, Germany at Fukuoka International Convention Center.
- ▶ Saw demonstrations of different university's BTPs/MTPs.
- ▶ Saw Industrial displays of different robotic products.
- ▶ Visited Tachoji Buddhist Temple, (806AD)





Day 15-18


- ▶ Worked towards collaborative projects aiming at
 - ▶ Image projective desktop devices for education
 - ▶ Industrial robot interface
- ▶ Presented summary of work done at Japan at Prof. Matsamaru Lab.
- ▶ Had my farewell party with Waseda IPS University.





Outcome

- ▶ Preliminary work and background built for collaborative research in near future.
- ▶ Exposure gained terms of robot building industry and robots in operation
- ▶ Knowledge gained from Prof. Matsamaru lab at Waseda IPS
 - ▶ Mobile robots
 - ▶ Image processing
 - ▶ And Projective input devices
- ▶ My first international conference which was abroad. I also chaired my session.



Thanks to Prof. Saha and Prof. Matsamaru for
their kind efforts which enabled me to have this
opportunity.
Thanks you all for kind listening