

Student Project Plagiarized

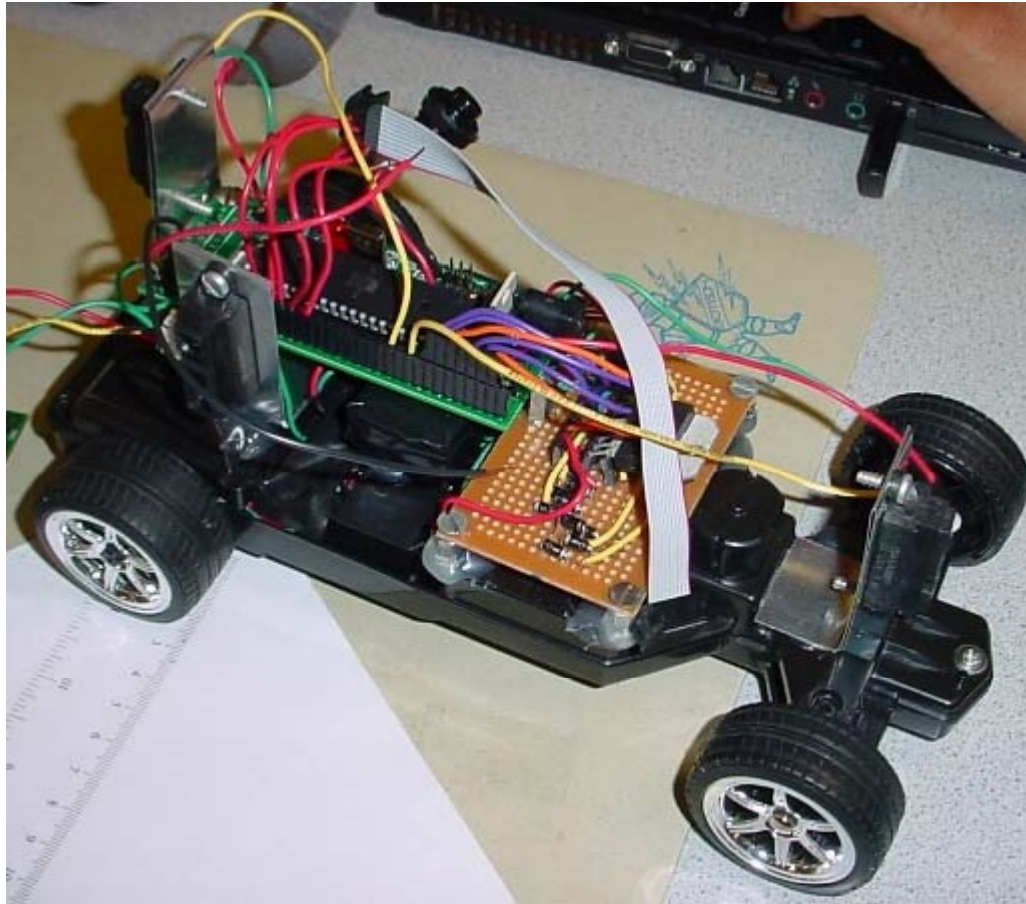
ECE 4760 project by
Arjun Nagappan and Arjun Prakash
May 2009

is **copied** into an IEEE Paper by
Baoping Xiao, Chang Xu and Lijun Xu
Mechatronic Engineering Institute
China Jiliang University,
Hangzhou, China
Dec 2009

ECE 4760 background

- Project based
 - ECE CDE class
 - Five week final project
 - 350 projects on the web, 1000 hits/day
 - IP considerations discussed in class
 - Citing code from other projects
 - Citing relevant papers and vendor web sites
 - Acknowledging donations from vendors
 - Considering patent and publishing opportunities
- 15 published projects, ~4 patent attempts.

Autonomous Parallel Parking Car



Students notice plagiarism

- A friend reads the IEEE article and forwards it to the students.
- Students write to me (March 19, 2010 1:09 AM):
“Please find attached a paper published December 2009 in an IEEE conference. This paper is an almost **exact** copy of Arjun Nagappan (asn28) and my (asp36) work for ECE 4760. The writeup uses the exact same words and state diagrams. This paper was accepted into an IEEE conference. Is this allowed? Should Arjun and I not receive a citation at the very least?”
Would appreciate your guidance on this point
- On Fri, Mar 19, 2010 at 8:08 AM, I wrote:
Very disturbing.
It is not allowed.
Let me pursue this.

Compare the abstracts

Students: May 2009

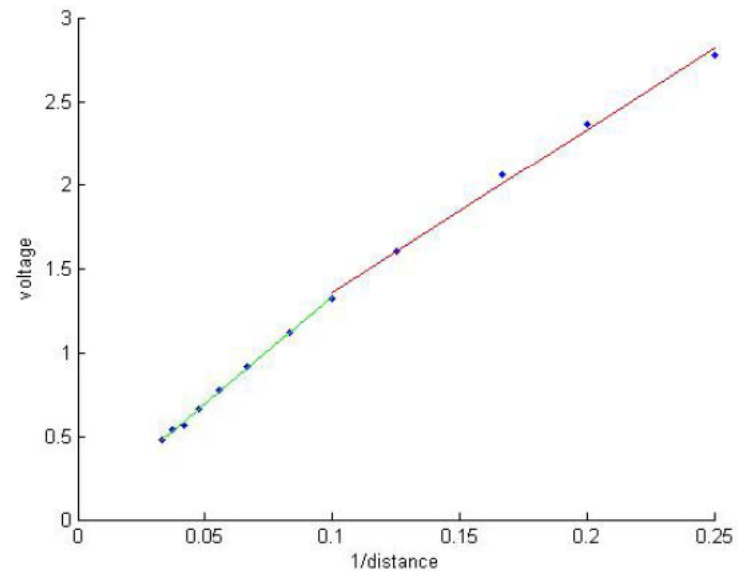
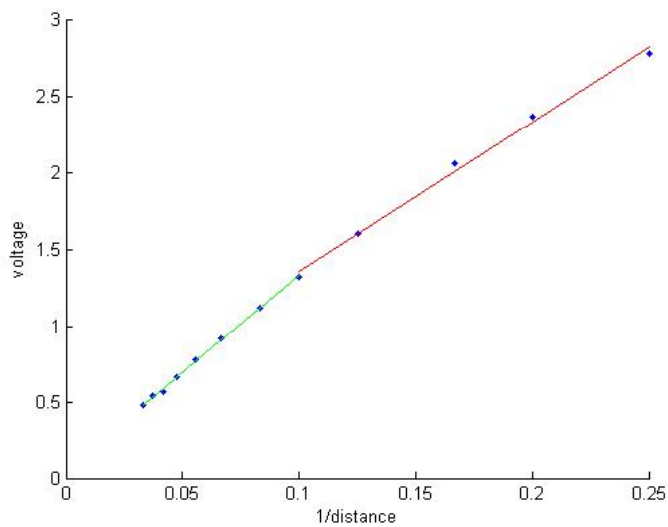
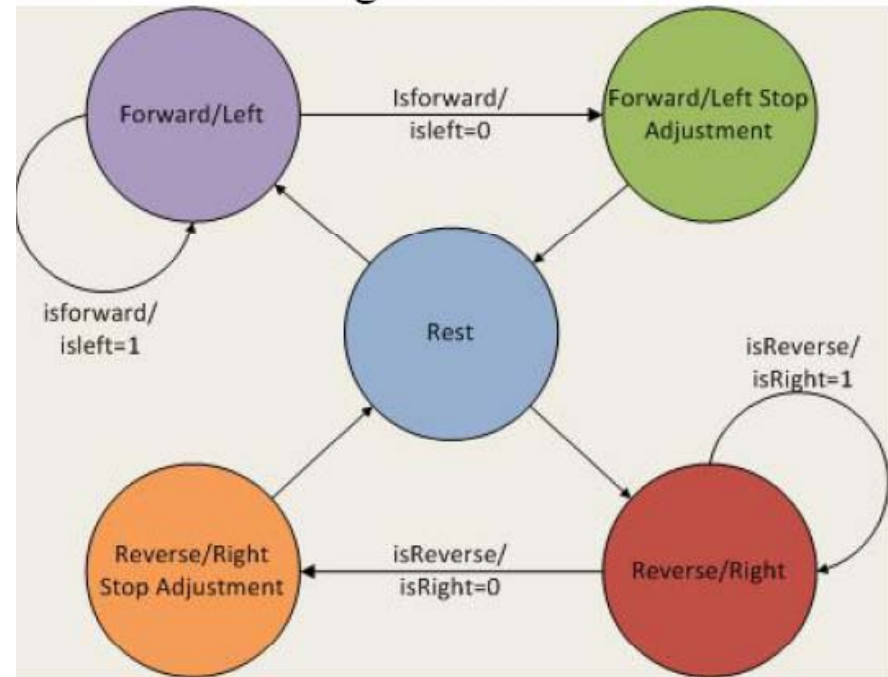
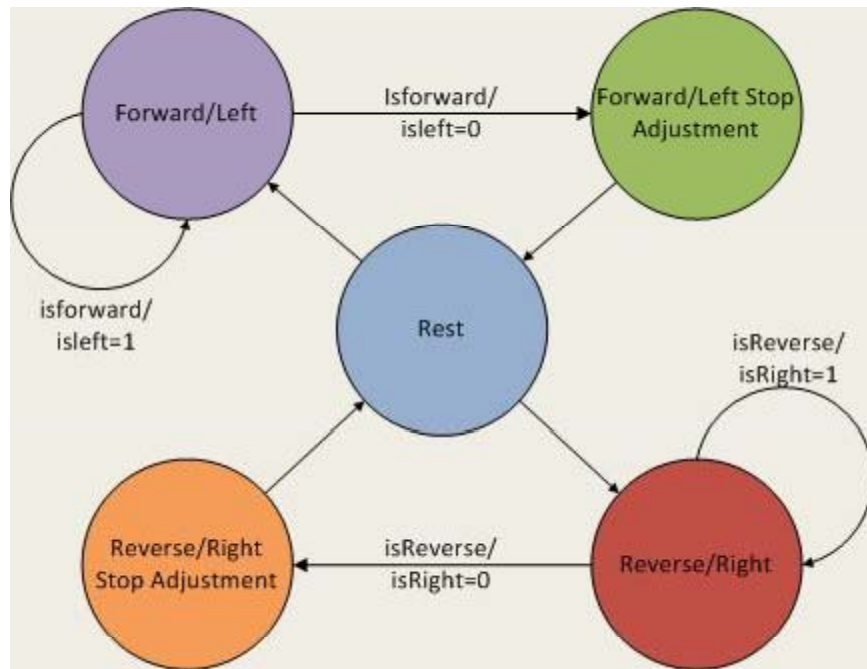
We created an RC Car that can identify a parking space and parallel park by itself. The RC Car drives down a street searching for a parking space to its right using **a** distance sensor. When the car has identified a space, the car checks to see whether that space is large enough to park in. If it determines that there is sufficient space, the car will begin parallel parking into that space. It uses information from sensors placed on the front, right, and rear of the car to direct the car into the parking space. Once the car has parked, it will remain in that position until it is reset.

Baoping Xiao, Chang Xu and Lijun Xu: Dec 2009

A RC Car that can identify a parking space and parallel park by itself is **created**. The RC Car drives down a street searching for a parking space to its right using **several** distance sensors. When the car has identified a space, the car checks to see whether that space is large enough to park in. If it determines that there is sufficient space, the car will begin parallel parking into that space. It uses information from sensors placed on the front, right, and rear of the car to direct the car into the parking space. Once the car has parked, it will remain in that position until it is reset.

Red highlights the differences

Compare Images



Compare 1st paragraph of results

Speed wasn't a big issue for us. All components of the software were done as state machines.

The Motor Control state machines update at ticks every 50ms. This was ample time for the state machines to compute the necessary control bits and assert the required inputs to the H-bridge. As a result, we were able to obtain highly accurate and sensitive responses from the motors to the control code.

The Algorithm Control state machines update at ticks every 100ms. This was enough time for the state machines to compute the necessary parameters, and to assert the necessary flags for the Control Module to interpret them and translate it into motor motion.

The response of the car to its surroundings is also very fast. The sensors have a response time of 20ms, which is quick enough for them to be processed in real time.

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Students contact authors who respond

Mr. Xiao,

It has come to my attention that you published a paper on a parallel parking algorithm recently. It turns out your article is an almost exact copy of the work I did 1.5years ago, which can be seen here ...

Is this just coincidence, or did you actually use the work I did as your basis (without referencing it)?

Arjun

(March 20, 2010 6:19 AM) Dear Arjun,

I sincerely apologize to you for my paper on a parallel parking algorithm was published without taking your work as a reference though its main idea was learned from your work. I am an electronic lover and I like to use ATMEL microchip. I found your work on the web was very interesting so that I began to learn your work and tried my best to apply the parking ideal of your work in my experiment and the result was almost close to your work. I thank you and appreciate your basic work. Now, I become to know it was totally wrong for me to let the paper to be published without taking your work as a reference and without rewriting my paper more closely according to my own experiment details. And I will not do that wrong thing again from now on.

I sincerely say sorry to you again.

Your sincerely

Baoping xiao

Students send complaint to IEEE through Ashutosh Saxena

Hi Chin-Chen Chang, and Responsible People at IEEE,

In your conference: "2009 Second International Conference on Future Information Technology and Management Engineering", the following paper is guilty of plagiarism and is a verbatim copy of Cornell University's previously published report:

Automatic Parallel Parking of RC Car Using Distance Sensors
Baoping Xiao, Chang Xu and Lijun Xu

...

I ask you to please take the paper off the IEEE conference publications and provide Cornell University with written apology ...

IEEE plagiarism guidelines

- Amount or quantity does not play a part in defining plagiarism. However, the amount of material plagiarized should play an important part in determining the appropriate corrective action.
- Credit notices or references are not sufficient to deflecting a charge of plagiarism if quotation marks or offset text have not been used to identify the specific material being copied.
- Paraphrasing can leave an author open to a charge of plagiarism if he or she has changed only a few words or phrases or has only rearranged the original sentence order. Even a proper paraphrasing of the original text can lead to a charge of plagiarism if the original source is not properly cited.

http://www.ieee.org/publications_standards/publications/rights/plagiarism.html

IEEE plagiarism scenarios

1. Uncredited Verbatim Copying of a Full Paper, or Uncredited Verbatim Copying of a Major Portion (more than 50%) within a Single Paper.
2. Uncredited Verbatim Copying of a Large Portion (greater than 20% and up to 50%) within a Paper.
3. Uncredited Verbatim Copying of Individual Elements (Paragraph(s), Sentence(s), Illustration(s), etc.) Resulting in a Significant Portion (up to 20%) within a Paper.
4. Uncredited Improper Paraphrasing of Pages or Paragraphs. Instances of improper paraphrasing occur when only a few words and phrases have been changed or when the original sentence order has been rearranged.
5. Credited Verbatim Copying of a Major Portion of a Paper without Clear Delineation. Instances could include sections of an original paper copied from another paper; credit notice is used but absence of quotation marks or offset text does not clearly reference or identify the specific, copied material.

IEEE responds:

... the committee had found substantial evidence that the paper:

"Automatic Parallel Parking of RC Car Using Distance Sensors"
Baoping Xiao, Chang Xu and Lijun Xu, Proceedings of the 2009
Second International Conference on Future Information Technology
and Management Engineering, December 2009

copied major portions of your original paper:

"Autonomous Parking RC Car" Arjun Nagappan and Arjun Prakash,
Final Project: Designing with Microcontrollers, Cornell University,
School of Electrical and Computing Engineering,
http://courses.cit.cornell.edu/ee476/FinalProjects/s2009/asn28_as_p36/FinalProjectReport/index.html, Spring 2009

The committee found that the misconduct fell into the category of
Level 1 plagiarism as described in Section 8.2.4..D.1 of the PSPB
Operations Manual.

Section 8.2.4..D.1

- 8.2.4 Allegations of Misconduct --
D. GUIDELINES FOR ADJUDICATING DIFFERENT LEVELS OF PLAGIARISM
1. Uncredited Verbatim Copying of a Full Paper -- corrective actions:
 - (1) Whenever possible, publication of a notice of violation of Publication Principles, as specified in Section 8.2.4.E, in the IEEE electronic database as part of the article's bibliographic record
 - (2) Whenever possible, publication of a notice of violation of Publication Principles, as specified in Section 8.2.4.E, in the appropriate IEEE publication where the author(s) and the specific paper have been found to be in violation of IEEE Principles against plagiarism
 - (3) Prohibition of publication in all IEEE-copyrighted publications by the offending individual(s) for 3 to 5 years as determined by PSPB Chair
 - (4) Rejection and return of all papers by the author(s) that are currently in review or in any IEEE publication queue (papers may be re-submitted after prohibition term has expired).

http://www.ieee.org/publications_standards/publications/rights/Section_822.html

Result

May 03, 2010

The committee recommended the authors be banned from publishing in all IEEE publications for a period of five years.

Also, a Notice of Violation was posted on the first page of the offending paper in IEEE-Xplore, as well as on the abstract page.

IEEE web page

Notice of Violation of IEEE Publication Principles "Automatic Parallel Parking of RC Car Using Distance Sensors" by Baoping Xiao, Chang Xu and Lijun Xu in the Proceedings of the 2009 Second International Conference on Future Information Technology and Management Engineering, December 2009 After careful and considered review of the content and authorship of this paper by a duly constituted expert committee, this paper has been found to be in violation of IEEE's Publication Principles. **This paper is a near verbatim copy of the work cited below.** The original text and figures were copied without attribution (including appropriate references to the original author(s) and/or paper title) and without permission.

Due to the nature of this violation, reasonable effort should be made to remove all past references to this paper, and future references should be made to the following article: "Autonomous Parking RC Car" by Arjun Nagappan and Arjun Prakash, as a Final Project: Designing with Microcontrollers, Cornell University, School of Electrical and Computing Engineering,
http://courses.cit.cornell.edu/ee476/FinalProjects/s2009/asn28_esp36/FinalProjectReport/index.html, Spring 2009

Conclusion

- The students rapidly (within a day) followed a reasonable course of action, guided by their advisor Ashutosh Saxena and (hopefully) by discussions in ECE 4760.
- The system worked by punishing the offenders with a publishing ban and public retraction.

Further Followup (3/2011)

- Baoping Xiao has plagiarized at least 8 more of our projects:
- An Application of MEMS Sensors in Inertial Navigation System (Jordan Crittenden and Parker Evans)
- System Model and Controller Design of an Inverted Pendulum (John Stang)
- An Ethernet Fingerprint Capturing and Authenticating System (Matt Rosoff, Peter Gretzer)
- An Ultrasonic Positioning Control System for Snake Arm (Mitchell Kotler and John Penning)
- A rapid and accurate solar tracker
- Research on a real-time scanning tunneling microscope data acquisition system (Engin Ipek and Sunarni Maulan)
- Human motion capturing system with MEMS accelerometers (Kris Young and Dan Li)
- Neuron network training system for Robot responding intelligently to input light stimuli