上海交通大学
SHANGHAI JIAO TONG UNIVERSITY

1896   1920   1987   2006

研究生学位课

航空航天学术英语

Academic English for Aerospace Graduates

Lecture VIII

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Last Week Homework

❶ Read **10-20** research papers extensively in your own field & find **1-2 most related** articles.

❷ Read the selected articles **intensively** and write down the technical **gap** and the **way** to fill the gap.

❸ Explain the **REVISED Introduction** of your manuscript in 5 min on next class

- Assign 4 students from different disciplines to present and 6 students to question

- A video camera will record everyone's presentation and replay it on class with a Q & A process.

Lecture Contents

4. Introduction

- ➢ Purpose of Introduction
- ➢ Structure of Introduction
- ➢ Basic Sentence Patterns

5. Introduction Appreciation & Literature Review

- ➢ Introduction Appreciation
- ➢ Intensive Reading & Extensive Reading

6. Citation & Plagiarism

- ➢ Right Citation
- ➢ Avoiding Plagiarism

What is Citation

- Broadly, a citation is a reference to a published or unpublished sources (not always the original source).

- More precisely, a citation is an abbreviated alphanumeric expression embedded in the body of an intellectual work that denotes an entry in the bibliographic references section of the work for the purpose of acknowledging the relevance of the works of others to the topic of discussion at the spot where the citation appears.

- Generally the combination of both the in-body citation and the bibliographic entry constitutes what is commonly thought of as a citation.

from https://en.wikipedia.org/wiki/Citation

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Purpose of Citation

- To uphold intellectual honesty (or **avoiding plagiarism**), to attribute prior or unoriginal work and ideas to the correct sources,

- To **allow the reader to determine independently** whether the referenced material supports the author's argument in the claimed way,

- To help the reader **gauge the strength and validity** of the material the author has used.

from https://en.wikipedia.org/wiki/Citation

Styles of Citation

Citation styles can be broadly divided into styles for the **Humanities** and the **Sciences**

Humanities

The Chicago Style was developed and its guide is *The Chicago Manual of Style*. It is most widely used in history and economics as well as some social sciences.

The Columbia Style was created by Janice R. Walker and Todd Taylor

The Harvard Style (or author-date system) is recommended by both the British Standards Institution and the Modern Language Association.

The MLA style was developed by the Modern Language Association.

The MHRA Style was developed by the Modern Humanities Research Association.

Styles of Citation

Sciences, Mathematics, Engineering etc.

The American Chemical Society style, or **ACS style**, is often used in Chemistry and some of the physical sciences.

The style of the American Institute of Physics (**AIP style**)

Styles developed for the American Mathematical Society (AMS), or **AMS styles**, such as AMS-LaTeX, are typically implemented using the BibTeX tool in the LaTeX typesetting environment.

The **Vancouver system**, recommended by the Council of Science Editors (CSE), is used in medical and scientific papers and research

The style of the Institute of Electrical and Electronics Engineers (IEEE), or **IEEE style**.

Styles of Citation (cont.)

IEEE citation style

The IEEE citation style has 3 main features:

1. The author name is first name (or initial) and last. This differs from other styles where author's last name is first.

2. The title of an article (or chapter, conference paper, patent, etc.) is in quotation marks.

3. The title of the book or journal is in italics.

Book

[1] W.K. Chen, *Linear Networks and Systems*. Belmont, CA: Wadsworth, 1993, pp. 123-35.

Article in a Journal

[2] G. Pevere, "Infrared Nation",*The International Journal of Infrared Design*, vol. 33, pp. 56-99, Jan. 1979.

E- Journal

[3] J. Shannon and F. Balon. (2008, Mar.). "Source-gated thin-film transistors." *Solid State Electronic*. [Online]. 52(3), pp. 449-454. Available: http://doi:10.1016/j.sse.2007.10.013 .

Some tips for citation in introduction

- Use different words to describe other authors' idea and results;

- Do give your own comments and judgements;

- Cite relevant sources in some logical way (time/method).

Example on citation

example1.pdf

Citation on "Early research work for landing maneuvers"

1. Page 401 left side paragraph 2
    Early research work with experimental results for landing maneuvers considered horizontal flat and stable landing surfaces. To land, the aircraft was simply commanded through position or velocity tracking maneuvers until contact with the ground occurred (see [11], [12]).

[11] S. Bouabdallah and R. Siegwart, "Full control of a quadrotor," *in Proc. IEEE/RSJ Int. Conf. Intell. Robots Syst. (IROS),* Oct./Nov. 2007, pp. 153–158.

[12] J. F. Roberts, T. S. Stirling, J.-C. Zufferey, and D. Floreano, "Quadrotor using minimal sensing for autonomous indoor flight," *in Proc. 3rd U.S.-Eur. Workshop Competition Micro-Aerial Vehicles, 7th Eur. Micro Air Vehicle Conf. Flight Competition*, 2007.

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Example on citation

example1.pdf

Citation on "Early research work for landing maneuvers"

2. The more challenging problem of landing an autonomous helicopter on an oscillating platform, such as the deck of a ship at sea, was considered in [13],

[13] L. Marconi, A. Isidori, and A. Serrani, "Autonomous vertical landing on an oscillating platform: An internal-model based approach," *Automatica*, vol. 38, no. 1, pp. 21–32, 2002.

Example on citation

example1.pdf

Citation on "Early research work for landing maneuvers"

3. and more recently, a landing controller able to cope with a landing platform that is vertically moving with unknown dynamics developed in [14], where landing is achieved based on optical flow measurements.

[14] B. Herissé, T. Hamel, R. Mahony, and F.-X. Russotto, "Landing a VTOL unmanned aerial vehicle on a moving platform using optical flow," *IEEE Trans. Robot.*, vol. 28, no. 1, pp. 77–89, Feb. 2012.

4. The related problem of landing on a horizontally moving platform was studied in [15],

[15] H. Voos and H. Bou-Ammar, "Nonlinear tracking and landing controller for quadrotor aerial robots," *in Proc. IEEE Int. Conf. Control Appl.*, Sep. 2010, pp. 2136–2141

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Example (cont.)

Citation on "Recent research work for landing maneuvers on other flight conditions where interaction with the environment "

1. In [16] and [17], solutions for landing aerial vehicles by perching on vertical walls are studied

[16] D. Mellinger, M. Shomin, and V. Kumar, "Control of quadrotors for robust perching and landing," *in Proc. Int. Powered Lift Conf.*, 2010, pp. 205–225.

[17] A. L. Desbiens and M. R. Cutkosky, "Landing and perching on vertical surfaces with microspines for small unmanned air vehicles," *J. Intell. Robot. Syst.*, vol. 57, nos. 1–4, pp. 313–327, Jan. 2010.

2. and an arm like extension to interact with objects [18] has also been proposed.

[18] M. Fumagalli, R. Naldi, A. Macchelli, R. Carloni, S. Stramigioli, and L. Marconi, "Modeling and control of a flying robot for contact inspection," *in Proc. IEEE/RSJ Int. Conf. Intell. Robots Syst.*, Oct. 2012, pp. 3532–3537.

3. Further exploration of flight modes where physical contact with the environment occurs culminated in [19], which focuses on the interaction of a ducted-fan aerial vehicle with a vertical surface,

[19] L. Marconi and R. Naldi, "Control of aerial robots: Hybrid force and position feedback for a ducted fan," *IEEE Control Syst.*, vol. 32, no. 4, pp. 43–65, Aug. 2012.

Example (cont.)

Citation on "The essence of the different dynamic behaviors of an aerial vehicle when interacting with the environment … can be easily captured by a hybrid automaton"

1. Hybrid automata constitute a subset of the larger class of hybrid dynamical systems [20] and allow the modeling of a complex system …
2. A different hierarchical control architecture for aggressive maneuvering applicable to autonomous helicopters is proposed in [22], wherein the hybrid controller is based on an automaton whose states represent feasible trajectory primitives.

[20] R. Goebel, R. G. Sanfelice, and A. Teel, "Hybrid dynamical systems," *IEEE Control Syst.*, vol. 29, no. 2, pp. 28–93, Apr. 2009.

[22] E. Frazzoli, M. A. Dahleh, and E. Feron, "A hybrid control architecture for aggressive maneuvering of autonomous helicopters," *in Proc. 38th IEEE Conf. Decision Control,* vol. 3. Dec. 1999, pp. 2471–2476.

Example (cont.)

Citation on "guarantees on the safety and performance of hybrid automata modeling robotic aerial vehicle"

1. In [23], guarantees on the safety and performance of hybrid automata modeling robotic aerial vehicles are achieved through reachability analysis using a dynamic game formulation with Hamilton–Jacobi methods under some appropriate assumptions about the control and disturbance.

[23] J. H. Gillula, G. M. Hoffmann, H. Huang, M. P. Vitus, and C. J. Tomlin, "Applications of hybrid reachability analysis to robotic aerial vehicles," *Int. J. Robot. Res.*, vol. 30, no. 3, pp. 335–354, 2011.

Example (cont.)

2. In this paper, we build on the works presented in [24] and [25] and propose a hybrid flight controller that ensures a successful completion of a landing maneuver, from a FF configuration to a complete halt, for a quadrotor vehicle in challenging circumstances.

3. In the spirit of [24], a hybrid automaton is used to model the vehicle, thereby encapsulating the complete dynamics of the different flight regimes that the vehicle must traverse.

[24] L. Marconi, R. Naldi, and L. Gentili, "Modelling and control of a flying robot interacting with the environment," *Automatica*, vol. 47, no. 12, pp. 2571–2583, 2011.

[25] D. Cabecinhas, R. Naldi, L. Marconi, C. Silvestre, and R. Cunha, "Robust take-off for a quadrotor vehicle," *IEEE Trans. Robot.*, vol. 28, no. 3, pp. 734–742, Jun. 2012.

What is plagiarism

According to the Merriam-Webster Online Dictionary

The act of using another person's words or ideas without giving credit.

Many people think of plagiarism as copying another's work, or borrowing someone else's original ideas.

But terms like "copying" and "borrowing" can disguise.

Where Does Plagiarism Stop?

What is plagiarism (cont.)

From the book "Academic writing for graduate students" (p173) written by John M Swales and Christine B. Feak.

1. Copying a paragraph as it is from the source without any acknowledgment.

2. Copying a paragraph making only small changes, such as replacing a few verbs or adjectives.

3. Cutting and pasting a paragraph by using the sentences of the original but leaving one or two out, or by putting one or two sentences in a different order.

4. Composing a paragraph by taking short standard phrases from a number of sources and putting them together with some words of your own.

5. Paraphrasing a paragraph by rewriting with substantial changes in language and organization, amount of details, and examples;

6. Quoting a paragraph by placing it in block format with the source cited.

From plagiarism to acceptable quotation

Some tips to avoid plagiarism

- Always give citation if you use other person's idea/results/examples;

- Do not use same paragraph or sentences;

- Do not copy main idea of others.

Summary on
how to write a good introduction?

Study from other papers
- **Survey the history of your research**
- **Describe key elements of your introduction**

Avoid plagiarism
- **Clarify your new idea**
- **Employ your own words**

Homework

❶ Read your own introduction, make sure all **references are properly cited.**

❷ Explain your **Introduction with citation and reference** in 5 min on next class

- Assign 4 students from different disciplines to present and 6 students to question

- A video camera will record everyone's presentation and replay it on class with a Q & A process.