

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
XIANBIN CAO	09/09/2020
WENBO DU	09/09/2020
JINTONG ZHANG	09/09/2020
HAICHAO AN	09/09/2020
YUMENG LI	09/09/2020
XI ZHU	09/09/2020
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	BEIHANG UNIVERSITY
<b>Street Address:</b>	NO. 37, XUEYUAN ROAD, HAIDIAN DISTRICT
<b>City:</b>	BEIJING
<b>State/Country:</b>	CHINA
<b>Postal Code:</b>	100191
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	17033785
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(206)374-2899
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
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<b>Email:</b>	dpai@pailaw.com
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<b>Address Line 1:</b>	3019 NE 127TH ST.
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<b>ATTORNEY DOCKET NUMBER:</b>	IP141516
<b>NAME OF SUBMITTER:</b>	CHAO-CHANG DAVID PAI
<b>SIGNATURE:</b>	/Chao-Chang David Pai/
<b>DATE SIGNED:</b>	09/26/2020

**Total Attachments: 6**

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ASSIGNMENT OF APPLICATION

Docket Number  
IP141516

Whereas, I/We, Xianbin Cao of Beijing, China, hereafter referred to as inventor(s), have invented certain new and useful improvements in AIRPLANE FLIGHT PATH PLANNING METHOD AND DEVICE BASED ON THE PIGEON-INSPIRED OPTIMIZATION

for which an application for a United States Patent was filed on \_\_\_\_\_ under Application No. \_\_\_\_\_, which is an application entering the National Stage under 35 U.S.C. 371 of \_\_\_\_\_ filed \_\_\_\_\_

for which an application for a United States Patent was executed on September 9, 2020, and Whereas, Beihang University of Beijing, China, herein referred to as "assignee", whose mailing address is No. 37, Xueyuan Road, Haidian District Beijing 100191, China, is desirous of acquiring the entire right, title and interest in the same;

Now, therefore, in consideration of the sum of ten dollars (\$ 10 ), the receipt whereof is acknowledged, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to said invention in the United States and the entire right, title and interest in and to any and all Patents which may be granted therefor in the United States, I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent(s) to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent(s) may be granted, as fully and entirely as the same would have been held by me/us had this assignment and sale not been made.

Executed this 9th day of September, 2020  
at Beijing, China

Xianbin Cao

Signature

Xianbin Cao

Printed Name

Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required. See below.\*

Total of 6 forms are submitted.

**ASSIGNMENT OF APPLICATION**

Docket Number  
IP141516

Whereas, I/We, Wenbo Du of Beijing, China, hereafter referred to as inventor(s), have invented certain new and useful improvements in  
AIRPLANE FLIGHT PATH PLANNING METHOD AND DEVICE BASED ON THE PIGEON-INSPIRED OPTIMIZATION

for which an application for a United States Patent was filed on \_\_\_\_\_ under Application No. \_\_\_\_\_, which is an application entering the National Stage under 35 U.S.C. 371 of \_\_\_\_\_ filed \_\_\_\_\_

for which an application for a United States Patent was executed on September 9, 2020, and  
Whereas, Beihang University of Beijing, China, herein referred to as "assignee", whose mailing address is No. 37, Xueyuan Road, Haidian District Beijing 100191, China, is desirous of acquiring the entire right, title and interest in the same;

Now, therefore, in consideration of the sum of ten dollars (\$ 10 ), the receipt whereof is acknowledged, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to said invention in the United States and the entire right, title and interest in and to any and all Patents which may be granted therefor in the United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent(s) to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent(s) may be granted, as fully and entirely as the same would have been held by me/us had this assignment and sale not been made.

Executed this 9<sup>th</sup> day of September, 2020  
at Beijing, China

Wenbo Du

Signature

Wenbo Du

Printed Name

Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required. See below.\*

Total of 6 forms are submitted.

**ASSIGNMENT OF APPLICATION**

Docket Number  
IP141516

Whereas, I/We, Jintong Zhang of Beijing, China, hereafter referred to as inventor(s), have invented certain new and useful improvements in  
AIRPLANE FLIGHT PATH PLANNING METHOD AND DEVICE BASED ON THE PIGEON-INSPIRED OPTIMIZATION

for which an application for a United States Patent was filed on \_\_\_\_\_ under Application No. \_\_\_\_\_, which is an application entering the National Stage under 35 U.S.C. 371 of \_\_\_\_\_ filed \_\_\_\_\_

for which an application for a United States Patent was executed on September 9, 2020 and  
Whereas, Beihang University of Beijing, China, herein referred to as "assignee", whose mailing address is No. 37, Xueyuan Road, Haidian District Beijing 100191, China, is desirous of acquiring the entire right, title and interest in the same;

Now, therefore, in consideration of the sum of ten dollars (\$ 10 ), the receipt whereof is acknowledged, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to said invention in the United States and the entire right, title and interest in and to any and all Patents which may be granted therefor in the United States, I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent(s) to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent(s) may be granted, as fully and entirely as the same would have been held by me/us had this assignment and sale not been made.

Executed this 9th day of September, 2020  
at Beijing, China

Jintong Zhang  
Signature  
  
Jintong Zhang  
Printed Name

Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required. See below.\*

Total of 6 forms are submitted.

ASSIGNMENT OF APPLICATION

Docket Number  
IP141516

Whereas, I/We, Haichao An of Beijing, China, hereafter referred to as inventor(s), have invented certain new and useful improvements in AIRPLANE FLIGHT PATH PLANNING METHOD AND DEVICE BASED ON THE PIGEON-INSPIRED OPTIMIZATION

for which an application for a United States Patent was filed on \_\_\_\_\_ under Application No. \_\_\_\_\_, which is an application entering the National Stage under 35 U.S.C. 371 of \_\_\_\_\_ filed \_\_\_\_\_,

for which an application for a United States Patent was executed on September 9, 2020, and

Whereas, Beihang University of Beijing, China, herein referred to as "assignee", whose mailing address is No. 37, Xueyuan Road, Haidian District Beijing 100191, China, is desirous of acquiring the entire right, title and interest in the same;

Now, therefore, in consideration of the sum of ten dollars (\$ 10 ), the receipt whereof is acknowledged, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to said invention in the United States and the entire right, title and interest in and to any and all Patents which may be granted therefor in the United States, I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent(s) to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent(s) may be granted, as fully and entirely as the same would have been held by me/us had this assignment and sale not been made.

Executed this 9th day of September, 2020,  
at Beijing, China

haichao an  
Signature

Haichao An  
Printed Name

Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required. See below.\*

Total of 6 forms are submitted.

**ASSIGNMENT OF APPLICATION**

Docket Number  
IP141516

Whereas, I/We, Yumeng Li of Beijing, China, hereafter referred to as inventor(s), have invented certain new and useful improvements in AIRPLANE FLIGHT PATH PLANNING METHOD AND DEVICE BASED ON THE PIGEON-INSPIRED OPTIMIZATION

for which an application for a United States Patent was filed on \_\_\_\_\_ under Application No. \_\_\_\_\_, which is an application entering the National Stage under 35 U.S.C. 371 of \_\_\_\_\_ filed \_\_\_\_\_.

for which an application for a United States Patent was executed on September 9, 2020 and Whereas, Beihang University of Beijing, China, herein referred to as "assignee", whose mailing address is No. 37, Xueyuan Road, Haidian District Beijing 100191, China, is desirous of acquiring the entire right, title and interest in the same;

Now, therefore, in consideration of the sum of ten dollars (\$ 10 ), the receipt whereof is acknowledged, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to said invention in the United States and the entire right, title and interest in and to any and all Patents which may be granted therefor in the United States, I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent(s) to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent(s) may be granted, as fully and entirely as the same would have been held by me/us had this assignment and sale not been made.

Executed this 9<sup>th</sup> day of September, 2020  
at Beijing, China

Yumeng Li  
Signature

Yumeng Li  
Printed Name

Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required. See below.\*

Total of 6 forms are submitted.

ASSIGNMENT OF APPLICATION

Docket Number  
IP141516

Whereas, I/We, Xi Zhu of Beijing, China, hereafter referred to as inventor(s), have invented certain new and useful improvements in AIRPLANE FLIGHT PATH PLANNING METHOD AND DEVICE BASED ON THE PIGEON-INSPIRED OPTIMIZATION

for which an application for a United States Patent was filed on \_\_\_\_\_ under Application No. \_\_\_\_\_, which is an application entering the National Stage under 35 U.S.C. 371 of \_\_\_\_\_ filed \_\_\_\_\_.

for which an application for a United States Patent was executed on September 9, 2020, and Whereas, Beihang University of Beijing, China, herein referred to as "assignee", whose mailing address is No. 37, Xueyuan Road, Haidian District Beijing 100191, China, is desirous of acquiring the entire right, title and interest in the same;

Now, therefore, in consideration of the sum of ten dollars (\$ 10 ), the receipt whereof is acknowledged, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to said invention in the United States and the entire right, title and interest in and to any and all Patents which may be granted therefor in the United States, I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent(s) to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent(s) may be granted, as fully and entirely as the same would have been held by me/us had this assignment and sale not been made.

Executed this 9th day of September, 2020,  
at Beijing, China

Xi Zhu  
Signature

Xi Zhu  
Printed Name

Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required. See below.\*

Total of 6 forms are submitted.