韦杰

基本信息

年龄： 21 岁

民族： 苗族

籍贯： 湖南省湘西州

现居住地： 成都市

政治面貌： 积极分子

联系方式

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就读院校：西南交通大学　　就读专业：数学与应用数学专业

教育背景

专业课程均分：93.38　　**专业排名：1/74**

英语四级: 504　　**英语六级: 498**

目前的兴趣:

代数几何。

代数:有限群及李群的表示，代数表示论，表示论与自守形式。

拓扑：代数拓扑，几何拓扑。

逻辑：集合论，模型论。

软件能力: 熟练使用 Latex,Matlab,国内外各类信息检索网站及数学论坛。

高阶课程学习情况

代数方向:

近世代数，同调代数，交换代数，李代数初步，有限群表示论基础。

分析方向:

实变函数，泛函分析，一般拓扑学，复变函数，偏微分方程。

几何方向:

微分几何，微分流形。

计算方向:

数值分析，数理统计，运筹学基础，多元统计。

学术经历

2022/7/10---7/16 线下参加天元数学西南中心段海豹老师的代数拓扑暑期短课。

- 主要学习了同调论以及同调群的五大计算公理。

2022/05---2023/04 主持大学生创新创业科研项目<<模论与有限群常表示特征标理论>>

- 项目被评为西南交通大学大学生创新创业（SRTP）优秀科研项目。
- 研究了 PID 上有限生成模的结构定理及其在有限 Abel 群分类的应用。
- 研究了模的范畴，Abel 范畴以及基本同调代数。
- 表示论中的 Machke 定理，Artin---Wedderburn 定理及有限群复表示的特征标理论。
- 利用有限群特征标理论证明及推广了 Burnside 定理和 Frobenius 定理。
- 利用 Burnside 定理与置换表示对 100 阶以内的群进行了分类，尤其关注其可解性和单性。
- 每次讨论班的讲稿用 Latex 整理成了一本完整的讲义。

2023/03---至今旁听西南交通大学刘品教授<<代数表示论基础>>研究生课程。

2023/03---至今参加四川大学卢明教授李理论的讨论班。

获得荣誉

2021 年 朴新教育奖学金

2021 年 西南交通大学三好学生

2022 年 西南交通大学综合一等奖学金

2022 年 西南交通大学三好学生

2022 年 全国大学生市场调研大赛省级一等奖

西南交通大学第十二届数学文化节之优秀数学笔记作业 二等奖

Jie Wei

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Education

University: Southwest Jiaotong University Major: Mathematic and Applied Mathematic
Average of Courses: 93.39 GPA : 3.81 Rank: 1/74
CET-4: 504 CET-6: 498

Research Interests:

- Algebraic Geometry.
- Topology, especially algebraic topology.
- Representation theory of algebras and groups.
- Math logic, especially set theory and model theory.

The advanced courses I have learnt:

- commutative algebra, homological algebra.
- finite groups representation theory, Lie algebra.
- basic topology, differential manifolds, real analysis.
- differential geometry, GTM52(parts of chapter 1&2)

Competitions and Research Experience:

Research Experience(Pure Math): Modules and Character theory of finite groups representation. 2022-2023

- Structure theorems of finitely generated modules over PID and its application.
- The category of modules, abelian category and homological algebra.
- Maschke theorem and Artin—Wedderburn theorem in rep.theory.
- Ordinary representation theory of finite groups, especially over complex number field.
- Generalization of Burnside theorem and Frobenius theorem.
- Apply the Burnside theorem and the theory of permutation rep.(Sylow theorem) to classify the finite groups of which order is less than 100, especially consider solvable groups and simple groups.

Research Experience(Applied Math): National Undergraduate Market Research Competition

- A survey of the cognitive level and consumption willingness of young consumer groups in Chengdu based on vegetarian self-service restaurants.
- The dynamic mechanism for young people to choose vegetarian self-help was constructed.
- A negative feedback moderating mechanism was proposed between the implementation effect of customer suggestions and customer satisfaction.
- Logistic regression model was established to analyze which factors had a significant impact on young consumers' choice of vegetarian food, and analyze the reasons.

Talks and Conferences:

- Chengdu, July 2022, alegbraic topology seminar at Sichuan University, homology theory and the computation axioms of homology group, teached by Prof. Haibao Duan(USTC).
- (Online)Nov.2022, Fudan logic, the fifth problem of Hilbert.
- Chengdu, Mar 2023, the forums of algebra,number field and combinatorics at Sichuan University, unboundedness of Tate–Shafarevich groups in cyclic extensions, talked by YiOuyang(USTC).
- Chengdu, 2023/03-2023/05, the seminar of Lie algebras and representation theory at Sichuan University, on Wednesdayper week, held by Prof. Ming Lu.

Skills and Hobbies:

Programming: Python, Matlab, Latex.
Software: Microsoft Office, Mathematica, SPSS, various Forums and Information retrieval engines.
Languages: Native Chinese ; Fluent English.
Interests: Singing, Watch movies, Walking , Climbing.