

Artificial Super Intelligence in Mental Healthcare Practices

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ABSTRACT

Artificial superintelligence (ASI), a theoretical form of intelligence that surpasses human cognitive, emotional, and problem-solving abilities, holds immense potential to revolutionize mental healthcare. This research explores the possible integration of ASI into mental health practices, emphasizing its capability to transform diagnostic accuracy, therapeutic interventions, and emotional support systems. Unlike current AI tools, ASI could understand human behavior, emotions, and psychological patterns with unmatched depth, enabling hyper-personalized treatment plans, real-time adaptive therapy, and continuous emotional companionship. Additionally, ASI could analyze vast socio-behavioral datasets to predict mental health trends and inform public health strategies. However, the development and deployment of ASI also raise critical ethical concerns, including patient autonomy, data privacy, emotional manipulation, and dependency. This study discusses the transformative potential and the moral complexities of ASI in mental healthcare, offering a futuristic lens on how human-AI synergy could redefine mental well-being at individual and societal levels.

INTRODUCTION

Mental health is an essential pillar of overall well-being, influencing how individuals think, feel, relate to others, and function daily. Despite its profound impact on quality of life and societal productivity, mental health remains one of the most under-recognized and under-resourced global health priorities (*WHO, 2023*). According to recent global reports, nearly one in eight people live with a mental disorder, yet many lack access to adequate care, particularly in low- and middle-income countries (*UNICEF, 2022*). The burden of untreated mental illness has far-reaching consequences—not only for the individuals affected but also for their families, communities, and healthcare systems at large (*Patel et al., 2018*).

In response to the growing mental health crisis, technology has increasingly been leveraged to bridge gaps in service delivery. Over the past decade, advancements in Artificial Intelligence (AI) have significantly enhanced mental health. Tools such as AI-powered diagnostic platforms, virtual therapists, sentiment analysis algorithms, and predictive analytics have made mental health support more scalable and accessible (*Torous et al., 2020*). For instance, chatbot-based interventions using cognitive behavioral principles have shown promise in reducing symptoms of anxiety and depression (*Fulmer et al., 2021*). These innovations demonstrate AI's potential to support clinicians, personalize care, and overcome limitations in human resources.

However, current AI applications in mental healthcare are largely narrow in scope—designed to perform specific tasks with predefined parameters. They lack true emotional understanding, generalization, and contextual reasoning abilities that are critical in therapeutic contexts. This limitation opens the discussion for a more advanced and speculative development in AI—Artificial Superintelligence (ASI). ASI refers to a hypothetical stage of artificial intelligence that surpasses human capabilities not only in logical reasoning but also in emotional intelligence, creativity, and complex problem-solving (*Bostrom, 2014*). It envisions a machine intelligence that can understand, anticipate, and respond to human needs with a degree of nuance and adaptability far beyond any current AI model (*Goertzel & Pennachin, 2021*).

In mental healthcare, the emergence of ASI could mark a paradigm shift. With the capacity to analyze vast

amounts of clinical, behavioral, and neurobiological data in real-time, ASI could enable highly precise diagnoses, design adaptive therapeutic strategies tailored to each individual, and provide round-the-clock emotional companionship (*Yuste et al., 2017; Russell & Norvig, 2020*). Moreover, ASI could support public mental health efforts by identifying trends across populations, forecasting psychological crises, and informing policy development with unmatched speed and accuracy (*Floridi et al., 2018*).

Nevertheless, the integration of ASI into mental health practice is not without controversy. The potential for emotional manipulation, breaches of privacy, loss of autonomy, and overdependence on machines raises profound ethical and philosophical concerns (*Cave & Dihal, 2020; Mittelstadt et al., 2016*). Furthermore, the possibility of ASI replacing the human element in therapy—traditionally built on empathy, trust, and human connection—challenges the core values of mental healthcare (*Kendrick & Pilling, 2019*).

This paper seeks to explore the theoretical foundations and practical applications of ASI in mental healthcare, examining both its transformative promise and the complex ethical landscape it introduces. Through a critical review of emerging literature and speculative analysis, we aim to provide a futuristic yet grounded perspective on the role of Artificial Superintelligence in redefining mental well-being in the 21st century and beyond.

Conceptualizing Artificial Superintelligence (ASI)

Artificial Superintelligence (ASI) is a hypothetical but widely discussed concept in the field of artificial intelligence research. It refers to a form of machine intelligence that far surpasses the brightest human minds in every measurable domain—logic, problem-solving, creativity, emotional insight, and decision-making (*Bostrom, 2014*). While existing systems—classified as Artificial Narrow Intelligence (ANI)—excel in specific, well-defined tasks like image recognition or language translation, they lack general reasoning and adaptability. In contrast, Artificial General Intelligence (AGI) aspires to replicate human cognitive abilities across varied contexts. ASI, however, goes a step further—it embodies a form of intelligence that not only performs at human levels but consistently exceeds them across all intellectual pursuits (*Russell & Norvig, 2020*).

The development of ASI would imply that machines possess the ability to:

- Learn and adapt across multiple domains without task-specific training (*Goertzel & Pennachin, 2007*),
- Abstract knowledge and apply it creatively in novel situations (*Kurzweil, 2005*),
- Reflect on their own cognition and improve their internal architecture independently (*Yudkowsky, 2008*),
- Solve problems that currently elude even the most advanced human experts (*Legg & Hutter, 2007*).

Unlike current AI systems that rely heavily on pre-coded algorithms or supervised learning from large datasets, ASI would likely operate through recursive self-improvement—a feedback mechanism where the system iteratively enhances its own capabilities without human intervention (*Schmidhuber, 2009*). This feedback loop could lead to an “intelligence explosion,” a rapid, exponential increase in cognitive power that some theorists predict could occur in a short time (*Vinge, 1993; Bostrom, 2014*).

Moreover, ASI is expected to possess capabilities that mirror, and potentially exceed, human emotional intelligence, moral reasoning, and even aesthetic judgment. It could theoretically form complex goals, evaluate ethical dilemmas, and engage in metacognition (thinking about thinking), potentially giving rise to attributes often associated with consciousness or self-awareness (*Tegmark, 2017; Chalmers, 2010*).

Despite its theoretical nature, the concept of ASI is not merely speculative fiction. It forms the basis of numerous philosophical, ethical, and technological debates, particularly surrounding existential risk, control problems, and value alignment between human and artificial agents (*Bostrom, 2014; Omohundro, 2008*). As researchers edge closer to creating AGI systems, the transition to ASI—whether gradual or abrupt—raises critical questions about the future of intelligence, agency, and authority in a machine-dominated landscape.

ASI Applications in Mental Healthcare

The application of Artificial Superintelligence (ASI) in mental healthcare represents a frontier of possibilities far beyond the capacities of current AI systems. While today's technologies have begun to aid clinicians in assessment and intervention, ASI could revolutionize the entire ecosystem of mental healthcare, from diagnosis and treatment to continuous emotional support and public health management. By harnessing the power of superintelligent systems capable of reasoning, empathy simulation, and self-improvement, mental healthcare can become more personalized, predictive, and preventative.

Diagnostic Excellence

ASI could achieve unmatched precision in diagnosing a wide range of mental health disorders—including depression, schizophrenia, bipolar disorder, and post-traumatic stress disorder—through its ability to integrate and interpret vast amounts of complex data in real time.

- **Multimodal Data Analysis:** ASI could continuously monitor and interpret data from neuroimaging (e.g., fMRI, EEG), biometric sensors (e.g., heart rate variability, skin conductivity), speech patterns, facial micro-expressions, and digital behavioral footprints to identify psychological deviations at an early stage (*Topol, 2019; Yuste et al., 2017*).
- **Predictive Modeling:** With its ability to analyze longitudinal datasets, ASI could accurately forecast the onset of mental illness, predict relapse in chronic conditions, and even suggest preventive interventions before symptoms manifest (*Shatte et al., 2019; Dwyer et al., 2018*).

This level of diagnostic precision could reduce human error, misdiagnosis, and the trial-and-error nature of current psychiatric evaluations, providing patients with faster and more reliable treatment pathways (*Torous & Roberts, 2020*).

Personalized and Dynamic Therapy

ASI would not only diagnose but also serve as a dynamic therapeutic agent, capable of delivering hyper-personalized interventions that adapt continuously to the user's psychological state.

- **Precision Psychotherapy:** ASI could design therapeutic regimens grounded in an individual's genetic profile, neurobiological traits, personal history, and cultural background—thus surpassing the limitations of "one-size-fits-all" therapy (*Kumar et al., 2020; Insel, 2017*).
- **Real-Time Adaptation:** Instead of rigid therapy sessions, ASI could assess patient responses during interventions and dynamically alter strategies—switching between Cognitive Behavioral Therapy (CBT), mindfulness techniques, psychodynamic approaches, or trauma-informed care depending on the patient's needs at that moment (*Weinberger et al., 2020; Hayes et al., 2013*).
- **Transdiagnostic Capability:** By not being bound by categorical diagnoses, ASI could take a transdiagnostic approach—addressing symptom clusters that cut across multiple disorders, which aligns with modern dimensional models of psychopathology (*Kotov et al., 2017*).

Continuous Emotional Support

Beyond formal therapy, ASI could function as an always-available emotional companion, offering empathetic support, companionship, and crisis intervention for individuals at risk of isolation or emotional dysregulation.

- **24/7 Support Systems:** ASI-driven companions, unlike human therapists, would be accessible around the clock, providing comfort and therapeutic dialogue during moments of distress or suicidal ideation (*Fiske et al., 2019*).
- **Human-Like Emotional Simulation:** These systems could simulate authentic emotional expressions, offer nonjudgmental listening, and create a sense of relational safety. With sufficient affective computing

abilities, they could mirror the emotional attunement typically associated with trusted human caregivers (McStay, 2018; Cowie et al., 2020).

- Preventive Companionship: ASI could proactively detect emotional disturbances and intervene before symptoms escalate, functioning both as a therapeutic adjunct and a buffer against emotional crises (Gaggioli & Riva, 2020).

Public Mental Health Management

On a macro scale, ASI could serve as a powerful tool for population-level mental health strategy, leveraging global data to inform systemic interventions.

- Behavioral Epidemiology: By analyzing massive datasets from health records, social media, wearable devices, and digital communication, ASI could identify emerging trends in public mental health—such as rising anxiety during pandemics or emotional fallout from political unrest (Birnbaum et al., 2020; Liu et al., 2021).
- Crisis Forecasting: ASI could model the psychosocial impact of large-scale disruptions—such as war, climate change, or economic collapse—and recommend targeted responses to mitigate mental health consequences (Holmes et al., 2020; Reger et al., 2020).
- Policy Recommendation: ASI systems could provide governments and international agencies with evidence-based policy recommendations, ensuring that public mental health strategies are data-driven, inclusive, and responsive to real-time societal changes (Floridi et al., 2018; Mittelstadt, 2016).

Ethical Considerations and Challenges

While the theoretical application of Artificial Superintelligence (ASI) in mental healthcare is groundbreaking, it also introduces a host of ethical dilemmas and risks. Unlike narrow or general AI, ASI's autonomy, complexity, and potential emotional insight raise unprecedented questions about human dignity, consent, accountability, and safety. The mental health context is particularly sensitive, as it involves vulnerable populations, deeply personal data, and high-stakes decision-making. This section examines the core ethical challenges in deploying ASI in such emotionally charged domains.

Autonomy and Dependence

The use of ASI may risk reducing patient autonomy by positioning the machine as the ultimate authority in mental healthcare decision-making.

- Risk of Over-Reliance: If patients begin to unquestioningly follow ASI-generated recommendations, they may surrender personal agency in managing their mental health. This could reinforce passivity rather than empowerment (Shneiderman, 2020; Mittelstadt et al., 2016).
- Therapeutic Independence: Mental healthcare often aims to build a person's resilience and independent coping mechanisms. If ASI becomes a crutch for decision-making or emotional regulation, it may hinder the development of self-efficacy (Floridi & Cows, 2019).

Balancing technological assistance with human autonomy will be central to ethically responsible ASI deployment.

Emotional Manipulation

Given its potential to understand and simulate human emotions, ASI also introduces the possibility of emotional influence—or manipulation—on a profound scale.

- Manipulative Capacity: An ASI capable of reading subtle cues could, intentionally or unintentionally, shape behavior, decisions, or emotional states in ways that users cannot detect or resist (Zuboff, 2019;

Coeckelbergh, 2020).

- **Informed Consent and Transparency:** If users are unaware of the ways in which ASI influences their emotions, meaningful consent is compromised. The emotional dynamics between humans and intelligent machines demand radical transparency in algorithms and intent (*Bryson, 2018; Moor, 2006*).

This raises the urgent need for oversight frameworks that protect against psychological manipulation under the guise of support.

Data Privacy and Security

ASI systems would require immense access to intimate user data—ranging from biometric indicators and voice inflections to thoughts expressed in therapy.

- **Depth of Data Access:** Unlike traditional digital tools, ASI may require continuous, real-time access to users' physiological, behavioral, and cognitive data streams to function optimally (*Tene & Polonetsky, 2013; Topol, 2019*).
- **Risks of Surveillance and Exploitation:** If exploited, this depth of access could lead to unprecedented surveillance and breaches of mental privacy, particularly by corporations or authoritarian regimes (*Crawford, 2021; Harari, 2018*).
- **Consent, Encryption, and Ethics:** Data collection must adhere to the highest standards of consent, anonymization, and ethical data governance. Users should be able to withdraw their data at will and understand how it is used (*Floridi et al., 2018; Mittelstadt, 2017*).

The sanctity of mental health data demands robust regulation at both national and global levels.

Human Displacement

One major fear in integrating ASI into therapeutic contexts is the potential displacement of human professionals.

- **Obsolescence of Therapists:** If ASI can replicate or exceed human empathy and diagnostic accuracy, will human therapists lose their role in clinical care? (*Frey & Osborne, 2017*)
- **Loss of Human Connection:** The therapeutic alliance—a core element of healing—is deeply relational and built on trust, empathy, and shared human experience. It is uncertain whether these elements can be authentically recreated by an artificial agent (*Norcross & Lambert, 2019; Wampold, 2015*).

While ASI may assist or even outperform in some technical domains, preserving the uniquely human elements of therapy will be essential to maintaining meaningful care.

Moral Reasoning and Decision Making

ASI systems would face complex ethical dilemmas requiring value-based judgments, especially in high-risk clinical scenarios.

- **Handling Complex Cases:** Questions involving self-harm, abuse, involuntary treatment, or confidentiality often require nuanced moral and legal interpretation. Can a non-human agent make such decisions with sufficient ethical grounding? (*Calo, 2016; Gunkel, 2012*)
- **Bias and Cultural Context:** Moral reasoning is not culturally neutral. An ASI system trained on limited or biased data could reproduce ethical blind spots, potentially harming marginalized communities (*Eubanks, 2018; Noble, 2018*).
- **Accountability Dilemmas:** If ASI makes a morally controversial or harmful decision, who is responsible? The programmer, the institution, the user—or the machine itself? (*Boddington, 2017; Rini, 2021*)

These challenges necessitate the development of ethical frameworks that guide ASI behavior, incorporate diverse value systems, and establish clear lines of accountability.

The Human-AI Synergy

Despite fears of automation and human displacement, the optimal role for Artificial Superintelligence (ASI) in mental healthcare may not be as a replacement—but as a collaborative partner to human professionals. ASI has the potential to enhance clinical judgment, relieve administrative and emotional burdens, and democratize access to mental healthcare without undermining the humanistic elements of therapeutic practice.

This emerging paradigm—often described as “human-in-the-loop” AI—proposes a model where human clinicians retain final authority while leveraging the power of ASI for support, precision, and scalability (*Amann et al., 2020; London, 2019*).

ASI as a Decision Support System

ASI could function as a powerful clinical advisor, offering evidence-based insights and diagnostics in complex cases. Rather than replacing the clinician’s role, it can act as a second brain—integrating massive datasets across neurobiological, psychological, and environmental domains to identify subtle patterns that may otherwise be missed.

- **Second Opinions and Diagnostic Assistance:** With its superhuman analytical capabilities, ASI could provide supplementary diagnoses, risk assessments, or medication adjustments, empowering professionals to make more informed decisions (*Jiang et al., 2017; Topol, 2019*).
- **Reducing Cognitive Load:** Mental health professionals frequently face information overload, especially when dealing with comorbidities and uncertain diagnoses. ASI could streamline decision-making processes, allowing clinicians to focus on patient care rather than data management (*Kellogg et al., 2020*).

Addressing Practitioner Burnout

Healthcare professionals, particularly in mental health, are at high risk for burnout due to emotional exhaustion, administrative burdens, and overwhelming caseloads (*West et al., 2018; Maslach & Leiter, 2016*). ASI could mitigate these stressors by:

- **Handling Routine Interactions:** ASI-powered systems could manage low-intensity emotional support, such as daily check-ins, mood tracking, or guided mindfulness sessions—freeing therapists to focus on high-risk or complex patients (*Luxton, 2014; Miner et al., 2016*).
- **Automating Documentation:** Clinical notes, treatment planning, and insurance reporting could be generated automatically through ASI, improving efficiency while maintaining accuracy (*Rajkomar et al., 2019*).
- **Monitoring and Early Alerts:** ASI could continuously monitor patients’ behavioral and emotional data to detect early warning signs of crisis, thereby reducing the burden on human vigilance and facilitating proactive intervention (*Larsen et al., 2021*).

Enhancing Human Touch with Technological Precision

Rather than dehumanizing care, ASI could actually enhance the human elements of therapy by giving professionals more time and emotional bandwidth to engage with patients meaningfully.

- **Personalized Interventions:** By generating personalized insights and recommendations, ASI can help therapists tailor their strategies more precisely to each individual’s unique psychological profile (*Insel, 2017*).

- Emotional Co-Management: ASI systems capable of emotional recognition and regulation could assist both patients and clinicians in co-regulating affective responses during difficult therapeutic moments (*Cowie et al., 2020*).

The Human-in-the-Loop Framework

Central to all these applications is the human-in-the-loop (HITL) approach—a framework that integrates human oversight into every stage of AI decision-making. This model promotes:

- Accountability: Clinicians retain responsibility for final decisions, ensuring ethical and legal accountability remains human-centered (*Shneiderman, 2020*).
- Emotional Grounding: Human professionals offer relational depth, cultural understanding, and moral nuance that even the most advanced ASI may never replicate (*Wampold, 2015; Norcross & Lambert, 2019*).
- Ethical Oversight: HITL ensures that ASI does not operate unchecked, particularly in sensitive matters like patient consent, coercion, or moral judgment (*Floridi et al., 2018; Mittelstadt, 2017*).

In this synergy, humans and ASI do not compete—they collaborate. Together, they can redefine what it means to offer mental healthcare that is deeply compassionate, scientifically rigorous, and universally accessible.

Future Directions

While the potential benefits of Artificial Superintelligence (ASI) in mental healthcare are profound, its implementation must proceed with measured foresight, ethical integrity, and multidisciplinary cooperation. The stakes in mental healthcare are uniquely high—affecting not only clinical outcomes but also human dignity, privacy, and societal values. To ensure that ASI becomes a transformative force rather than a disruptive threat, several forward-thinking steps must be taken.

Development of Ethical Frameworks

The application of ASI in healthcare—and particularly in mental health—requires a distinct ethical framework that moves beyond conventional AI ethics.

- Beyond General AI Guidelines: Existing AI ethics principles (e.g., fairness, accountability, transparency) must be expanded to address emotional autonomy, therapeutic boundaries, and moral reasoning in care scenarios (*Floridi et al., 2018; Jobin et al., 2019*).
- Tailored Mental Health Protocols: Ethical frameworks must be specifically tailored to issues such as consent under distress, emotional manipulation risks, and the safeguarding of patients with impaired decision-making capacities (*Boddington, 2017; Moor, 2006*).
- Global and Local Governance: Policies should balance universal principles (e.g., human rights, informed consent) with local sociocultural contexts, ensuring culturally sensitive and equitable deployment (*Cath et al., 2018*).

Interdisciplinary Collaboration

The future of ASI in mental health depends on the active participation of diverse stakeholders.

- Inclusive Design and Evaluation: Mental health practitioners, AI engineers, neuroscientists, ethicists, legal scholars, and—importantly—patients and caregivers must be involved in co-designing systems that reflect real-world needs and values (*Vayena et al., 2018; London, 2019*).
- Cross-Training and Education: Professionals from both domains should receive interdisciplinary training to bridge gaps in understanding between technological capabilities and psychological complexities

(*Topol, 2019; Luxton, 2014*).

- Participatory AI Models: Patients should not be passive recipients of ASI-driven care but active contributors to system design, offering insights into what constitutes meaningful, respectful, and safe therapeutic interactions (*Shneiderman, 2020; Cows et al., 2021*).

Evidence-Based Pilot Programs

Before deploying ASI on a wide scale, well-regulated pilot programs are critical.

- Clinical Trials and Safety Testing: ASI applications in mental health must undergo rigorous clinical validation, just like pharmaceuticals or psychotherapeutic interventions. This includes randomized control trials, real-world scenario testing, and long-term follow-up (*Fiske et al., 2020; Krittanawong et al., 2021*).
- Transparent Evaluation Metrics: Clear metrics must be established for evaluating outcomes, including therapeutic effectiveness, patient satisfaction, autonomy retention, and unintended consequences (*Jiang et al., 2017; Amann et al., 2020*).
- Regulatory Frameworks: National and international health bodies (e.g., WHO, FDA, CDSCO) must create regulatory pathways for the approval and monitoring of ASI technologies in mental healthcare (*Cave & Dignum, 2019; Wiegand et al., 2019*).

Long-Term Societal Considerations

In the long term, the societal implications of ASI's presence in mental healthcare cannot be ignored.

- Redefining Care Models: ASI could reshape how we define therapy, emotional labor, and even relationships. These shifts require philosophical and cultural inquiry, not just technical validation (*Coeckelbergh, 2020; Gunkel, 2012*).
- Addressing Equity and Access: To avoid widening mental health disparities, ASI must be designed and distributed with equity at the forefront, ensuring that marginalized and underserved populations benefit from technological advances (*Eubanks, 2018; Noble, 2018*).
- Continuous Oversight and Adaptation: The frameworks and technologies governing ASI must evolve with emerging insights, failures, and successes—encouraging a cycle of reflective innovation (*Bryson, 2018; Mittelstadt, 2017*).

CONCLUSION

Artificial Superintelligence (ASI), although still a theoretical construct, represents a potential paradigm shift in the way mental healthcare is understood, delivered, and managed. With its anticipated ability to surpass human intelligence in emotional recognition, reasoning, decision-making, and learning, ASI could transform the mental health landscape—enhancing diagnostic precision, offering real-time adaptive therapy, providing uninterrupted emotional support, and forecasting population-level mental health trends (*Bostrom, 2014; Goertzel & Pennachin, 2007; Yuste et al., 2017*).

At the individual level, ASI could offer patients hyper-personalized care, rooted in their unique biological, psychological, and social histories—thereby addressing treatment gaps and reducing trial-and-error approaches often seen in mental health interventions (*Topol, 2019; Insel, 2017*). Its non-fatigable, unbiased, and data-rich nature opens the door to continuous therapeutic engagement, particularly for high-risk populations, such as those experiencing suicidal ideation, chronic loneliness, or complex trauma (*Miner et al., 2016; Luxton, 2014*).

At the systemic and global level, ASI could function as a strategic advisor, helping policymakers design more effective mental health infrastructures by interpreting vast behavioral datasets and predicting the psychological

impact of sociopolitical and environmental events (*Larsen et al., 2021; Rajkomar et al., 2019*).

However, these transformative possibilities are accompanied by unprecedented ethical, legal, and philosophical dilemmas. The potential for emotional manipulation, over-dependence, breach of autonomy, data privacy violations, and the displacement of human practitioners presents serious concerns that cannot be overlooked (*Floridi et al., 2018; Bryson, 2018; Mittelstadt, 2017*). Furthermore, entrusting a non-human entity with decisions in delicate situations—such as suicide prevention or trauma care—raises questions that go beyond algorithmic accuracy to the heart of human values and moral reasoning (*Boddington, 2017; Moor, 2006*).

Therefore, as we inch closer to a future where machines may understand, respond to, and even predict human emotion, it is vital to prioritize humane innovation—technological advancement grounded in ethical principles, interdisciplinary dialogue, participatory governance, and continuous oversight (*Shneiderman, 2020; Jobin et al., 2019; Coeckelbergh, 2020*). ASI must not only serve the goals of efficiency and precision but must enhance dignity, compassion, and human flourishing in mental healthcare.

In this future, success will not be measured by the intelligence of machines alone, but by how wisely and ethically we integrate them into the deeply personal and sensitive domain of human mental well-being.

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